

Dr. H. A. Hare
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THE JOURNAL OF THE MINNESOTA STATE MEDICAL ASSOCIATION AND THE NORTHWESTERN LANCET

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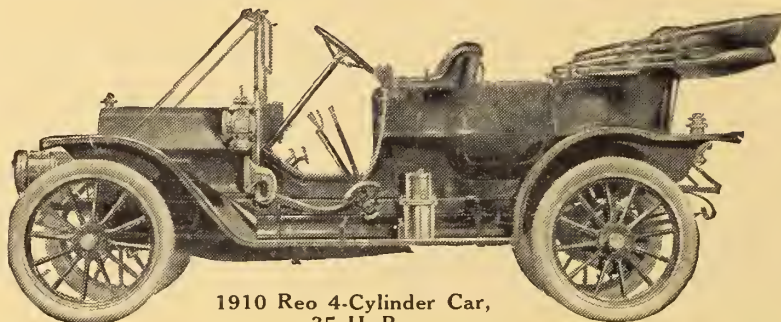
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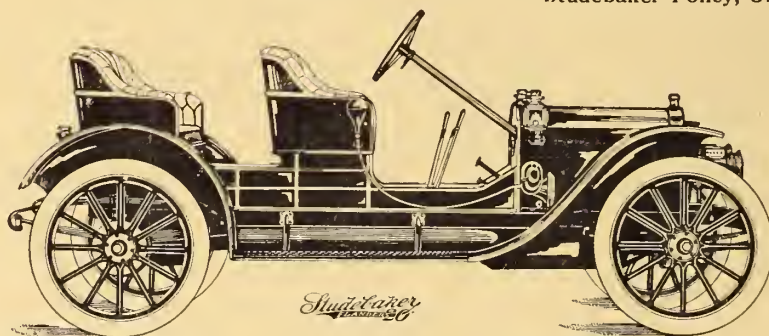
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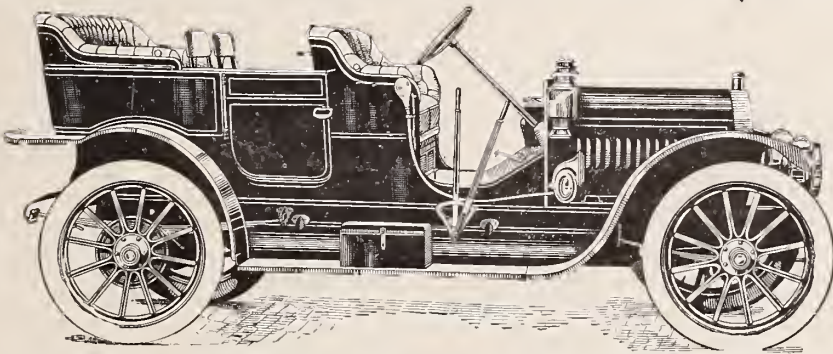
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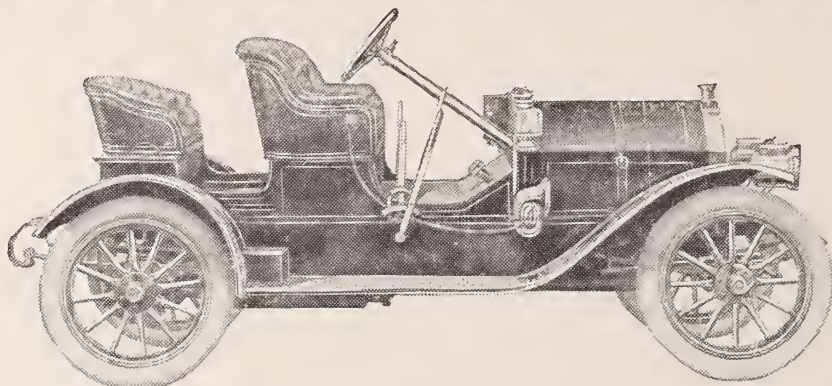
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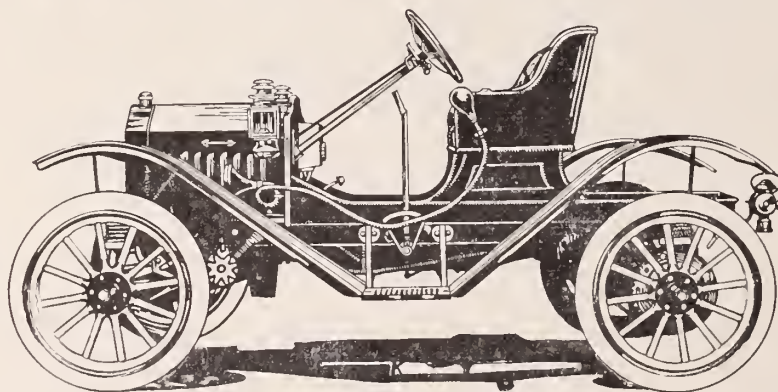
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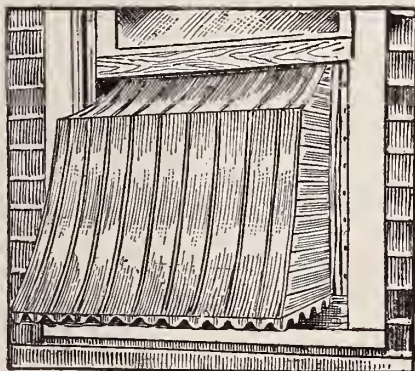
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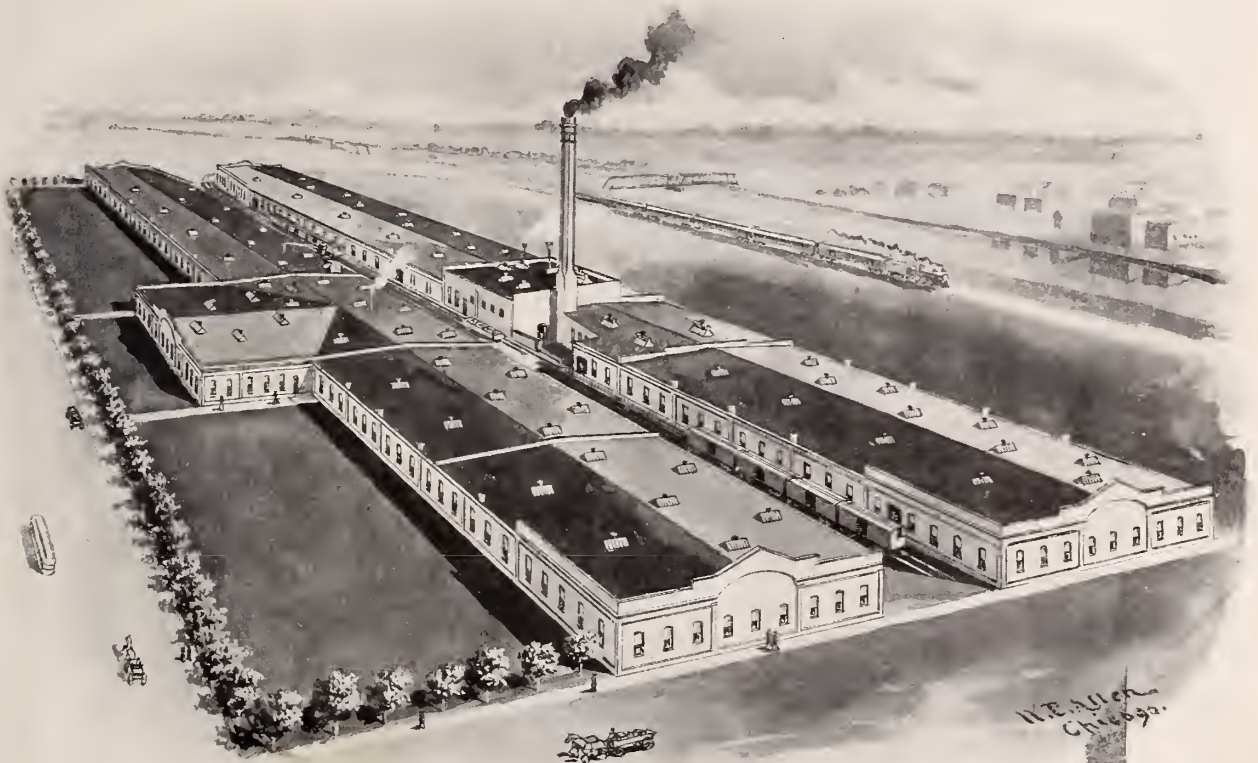
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JANUARY 1, 1910

No. 1

POLIOMYELITIS—PREVIOUS EPIDEMICS*

BY HALDOR SNEVE, M. D.

ST. PAUL

Over fifty epidemics of so-called acute anterior poliomyelitis have now been recorded. Medin, of Stockholm, gave the first succinct account of the epidemic form of the disease and called attention to the occurrence of facial and bulbar palsies clearly of the same origin. Later, his pupil, Wickman, of Stockholm, made one of the most careful studies ever made of any epidemic disease, and has shown us that the disease is an acute infection, contagious, and may assume clinically one of numerous forms of disease heretofore regarded as distinct, such as the cerebral infantile palsy of Strumpell, the ophthalmoplegia of Wernicke, the bulbar palsy of Duchenne, Landry's paralysis, transverse myelitis, and abortive forms (same disease without paralysis). Geirsvold, of Norway, has given us the same facts and noted that abortive cases probably form an important link in the contagion.

Curiously enough, our American epidemics show possible contagion only in the minority of instances. Clinically we do not advance very far, and we needed the masterly pathological-anatomical studies of Harbitz and Scheel, of Norway, in nineteen cases, (reproductions of whose plates I here show you) to give a correct insight of the nature of the disease process. They showed that the disease is a specific leptomeningitis, the virus starting from the pia as a base and following the blood-vessels into the substance of the whole cerebrospinal tract, destroy-

ing or temporarily affecting the ganglion cells, especially where the blood supply is the most rich. The only positive evidence of the nature of this virus is given by Geirsvold, who found a diplococcus in the spinal fluid in twelve cases, cultivated the germ, described its staining properties, and inoculated it into animals, producing paralysis and death. A like microbe has been found by a number of others and outweighs the negative evidence of some observers, so that for the present, until newer and extensive studies shall disprove his views, we must accept the diplococcus described by him as the active causative agent.

The port of entry is probably the nose and throat. The New York epidemic shows that 50 per cent of the infants attacked were breast-fed, thus eliminating food infection.

Four-fifths of the cases occur under six years of age, but any age may be attacked. The proportion of males to females is three to two. Epidemics seem to follow rivers, and the months of July, August, and September have by far the most cases. The period of incubation is from one to five days. The onset is usually sudden with meningeal symptoms, such as restlessness, apathy, pains in the head, neck, back, or limbs, and vomiting. Fever in the neighborhood of 101° F. Constipation is more frequent than diarrhea. Healthy children are just as liable to be afflicted as weak. The paralysis affects the legs in the greatest number, next the arms, and finally the head and face. The mortality is about 10 per cent in children and 25 per cent in adults.

*Read at the 41st annual meeting of the Minnesota State Medical Association, held at Wmna, Oct. 14 and 15, 1909.

Death practically always is a medulla death from paralysis of the respiration. About four-fifths of the cases have paralysis, and 25 per cent of these completely recover; 75 per cent of the remainder recover partially.

Abortive cases present the greatest difficulty in diagnosis, as they may appear to be cases of meningitis or of influenza or of polyneuritis, and we can only suspect them when occurring in the presence of an epidemic. A study in the Rockefeller Institute, of New York, seems to indicate that the diagnosis of this disease by a serum reaction is impossible.

Lumbar puncture may reveal the Geirsvold microbe, besides being a valuable therapeutic measure.

The first thing in treatment is rest; urotropin, which liberates formaldehyde in the cerebro-spinal sac, may be given in the acute stage; antiseptic gargles and nose washes may have prophylactic value; 0.1 gr. of calomel every hour, with salicylates, of which I favor aspirin,

may be given when indicated; dry cupping or ice-bags or counter-irritation may be used over the spine. The paralyzed limbs should be supported by sandbags and pillows to keep them in proper position; later strychnine may be given, and in about two weeks massage, vibrations, electricity, and elastic bands or orthopedic appliances should be employed.

For the residual paralysis, tendons can be grafted into healthy muscles, or nerve-implantation of the distal sick nerve into a healthy one, or other orthopedic procedure adopted.

We are dealing, not with a new disease, but with an old affection, mentioned even in the Bible. That Mephibosheth became lame was ascribed to the carelessness of the nurse in letting him fall.

Sporadic cases are with us always, and occasionally exacerbations occur which we call an epidemic.

FOR DISCUSSION SEE PAGE 4

EPIDEMIC POLIOMYELITIS IN MINNESOTA IN 1908

By A. S. HAMILTON, M. D.

MINNEAPOLIS

Three large epidemics of poliomyelitis appeared in Minnesota in 1908. In addition there were numerous isolated cases of the disease throughout the state, and in a few localities even small epidemics may be said to have prevailed in addition to the three already mentioned. Thus, in Minneapolis there were probably a dozen cases, which is decidedly more than have been seen in that city in ordinary years.

On October 7, 1908, I saw a boy of three and one-half years, sent from Wadena to Dr. W. A. Jones for diagnosis. The boy presented typical symptoms of poliomyelitis, including rise of temperature, angina, pain, and tenderness in the arms, legs, and the back of the neck, and finally a complete paralysis of the right arm. I was informed that there were four or five other cases of the same trouble in Wadena at that time, but I have been unable to get further information concerning them.

Later in the year two senior students of the University of Minnesota, who had been caring for physicians' practices during the summer, informed me that they had seen several cases of

this sort. One had had a child who developed a paralysis, and he had heard that in a neighboring town there had been three other cases. The other had had three cases in his own practice. Dr. Hill informs me that in his work of this year, he has learned of numerous similar isolated cases which occurred last year. It is evident, therefore, that the disease, though not occurring so widely as this year, was pretty well spread throughout the state even in 1908, and Dr. Hill's estimate of 150 cases for last year seems to me a very conservative one.

Where the disease came from originally, it is impossible to say positively, but it is not improbable that the epidemic which appeared in Trempeleau County, Wisconsin, in 1907, and which is believed by the authorities at Eau Claire to have been the starting-point of their epidemic last year, may have been the starting-point of more or less of our cases.

As I have already mentioned, there were three epidemics of considerable size in the state. One of these occurred at Hibbing, and sixteen cases were reported; another occurred at Northfield where they had thirty cases. Of these I shall say nothing further, since I saw none of the

patients, but Dr. Hill and others will probably speak concerning them.

The third extensive epidemic occurred at Barnum and Moose Lake, and at the meeting of this Association last year I reported clinically a number of patients from this source. On this occasion, therefore, I shall confine my remarks to the general features of the disease.

The first case in the epidemic was reported at Moose Lake, July 21, 1908, in a boy of six years. In spite of a searching examination no source of contagion, either direct or through an intermediary, could be found. From this date up to the end of September a large number of individuals in Moose Lake and the neighboring town of Barnum and the surrounding country became ill with an affection very similar in its early manifestations but differing greatly in the terminal features. In a considerable number of instances typical paralyzes developed and in these there could be no doubt of the diagnosis. In another group there appeared the same signs of an acute affection, followed by muscular weakness lasting for a few days. A diagnosis of poliomyelitis here also was probably safe. In a third group, however, even though the early symptoms were much the same, there were present, in addition, such conditions as tonsillitis, gastritis, and enteritis, and, when no paralysis appeared to make positive the diagnosis, it was difficult to say whether these latter conditions were to be regarded as symptoms or complications of poliomyelitis, or whether, in themselves, they explained the entire affection. At the time that Dr. Robertson and I saw the patients there were twenty-one cases where the diagnosis seemed reasonably certain, and in Dr. Speck's opinion at least twenty-four more subsequently appeared, making a total of forty-five, and this is probably a very conservative estimate.

In most of its manifestations the epidemic was very similar to those prevailing this year, but in a few respects it presented especially interesting features. The fact that in practically all epidemics it is very infrequent for more than one case to develop in a given family, constitutes one of the strongest arguments against the contagiousness of the disease. As regards this point, the Barnum epidemic seems almost in a class by itself.

In the families included in the first twenty-one cases reported to the State Board of Health, there were, so far as our records show, thirty-six children, and of these, twenty-two, either at the time of the report or subsequently, acquired

the disease. Even granting, as is true, that where more than one child became ill in the same family—we were more inclined to state the total number of children—the following facts as to special families are suggestive. In one family of six children, five became ill; in one family of five children, three became ill; in two families of four children each, three became ill in each family. In one of the families of four children the interval between the development of the different cases is not stated. In the others the period intervening between the appearance of the first and subsequent cases was as follows: one day, 1; two days, 1; three days, 2; four days, 3; six days, 1.

In the family of six children, two died in convulsions, one recovered with the exception of paralysis of the legs, one had "muscular weakness" and ultimately made a good recovery, one recovered with no evidence of paralysis at any stage. In the epidemic at Eau Claire, Wis., and vicinity, which occurred at the same time, instances where more than one child became ill in the same family were distinctly rare. Thus, out of three hundred and fifty-two cases on record at one time, in only twenty-five instances was more than one child in the same family affected.

So far as my experience in the two epidemics permits me to say, I am also very strongly of the opinion that symptoms of meningeal irritation were decidedly less frequent at Eau Claire than at Barnum and Moose Lake. It is also noteworthy that evidences of tonsillitis and pharyngitis were frequent at Barnum and Moose Lake and rare at Eau Claire.

Though young children were usually the victims, one patient was slightly over twenty and one was forty-three years old. Half-grown boys and girls were frequently affected. The death-rate for the entire Barnum and Moose Lake epidemic was five. No autopsies were obtained, but cerebrospinal fluid, secured post-mortem in one case, gave negative results.

Very careful investigation failed to show any common source of contagion. School was not in session at the time, and it was impossible to connect the widely-scattered cases, through food, water, social intercourse, or in any other way. Some of the families led peculiarly isolated lives in the country. The altitude was high, and the region apparently healthy. So far as seen, except in four instances, the disease occurred in well-to-do families.

DISCUSSION OF THE PRECEDING PAPERS

DR. D. B. PRITCHARD (Winona): We have had quite a number of cases of poliomyelitis in Winona. The first case began the latter part of June, and the last case was in August. It had been going on some little time before we recognized that we had something in the nature of an epidemic. I saw two or three cases of my own, and in talking with some other physicians found that they had cases. I called Dr. Bracken's attention to the matter and asked him what he could do. Dr. Hill came down here, and we found that, instead of six or seven cases, we had about twenty-five cases. Dr. Hill went into the cases thoroughly. I saw a good many of them with him, and he tried to find something common to them all, but failed, except that they occurred in a dry and dusty time. The distribution of the cases covered a wide area. They were scattered all over town, embracing a territory about two and a half miles long by a mile and a half wide. The cases were distributed at the east and west end and the north and south sides, and there were at least two or three cases scattered through the center of the town. There seemed to be no connection between them. In going about we found that people did not know of any other cases, and evidently they had no intimate connection with other people who had it. We had cases where there were eight to ten young children in a family, and only one child would have the disease. We had three families that had two cases each. They were small families. One family had two children, and both had it. In the large families they had only one case occurring. I saw a case in the country in a family of nine children, the oldest sixteen and a baby two years old, and the baby was the only one who had it.

We talked the thing over, and we took a map of the city showing the portion sprinkled and the portion unsprinkled, and it was remarkable to see how these cases stuck to the unsprinkled portion. In the east end we found cases where one side of the street had been sprinkled and not the other. Some at the lower end were not sprinkled north and south, and almost invariably at the corner house where the streets were sprinkled east and west and not sprinkled north and south, one found cases among those children who had been playing in the back yard on the side street, and it was remarkable to see how the cases stuck to those conditions. In point of fact we could find nothing that seemed common to all cases. In view of the fact that it was terrible dusty we thought it best to sprinkle all the streets, and we did so, and not only that, but we wet the houses and washed off the trees, and a few days after that the cases began to drop off. We began to sprinkle on the 5th of the month, and on the 12th we had the last case.

Whether there is any connection between the disease and the dust I cannot say, but from the fact that the disease subsided after sprinkling and rain it struck me as having something to do with it. (Applause.)

DR. E. D. KEYES (Winona): I have nothing to add to what Dr. Pritchard has stated. I saw perhaps half a dozen cases, all occurring during July, except one case that came in from the country about a month ago. This last case was a case of the ascending variety of paralysis, in a girl seventeen years old, and she died of respiratory paralysis.

The cases occurring, with one exception, were isolated

cases, only a single child in a family being affected. They were all under five years of age, and in one family in which there were three children two of them had it, and that was the only instance where there were two in a family that I saw.

The cases were scattered here and there over the whole city, and apparently there seemed to be no connection, or no signs of contagion, between one case and another. It looked to me and other physicians as though it was an epidemic condition, rather than a contagious disease. I do not know of anything further to add except that the dust seemed to play an important part in the infection. (Applause.)

DR. F. W. BULLEN (Hibbing): During the summer of 1908 there were fifteen cases of acute anterior poliomyelitis in Hibbing and vicinity. The first case was taken ill on June 15th, and the second case on July 4th. The rest of the cases appeared during the last week of July and the first week of August. Nine of the cases lived in Hibbing, five in mining locations, one-half to one mile from town, and one, the second case to appear, lived fourteen miles south of town on a farm.

While the weather was not especially warm, it was very dry and dusty during the latter part of the summer. Only nine of the cases were using city water, and the milk supply was from various sources. No two cases occurred in the same family, although, except in two instances, there were from one to five other children in the family. No attempt was made to isolate the cases. Two of the children were cousins and were taken ill at the same time, while one of the later cases was a cousin of the first case. As nearly as I can ascertain ten of the families traded at one particular grocery store, and two children of members of the firm were among the cases reported.

All of the cases were in good health when the disease began, and, expecting several cases of diphtheria, the town was nearly free from contagious diseases during the summer.

One of the cases was a young man of 24, one a boy of 6, and the rest between one and three years of age. As to nationality, five were Finns, two Swedes, one an Austrian, and the rest American. The parents were poor in three cases, and the surroundings unsanitary in two cases only.

The initial symptoms in all the cases were those of acute gastro-enteritis, as seen so often during the summer months. Vomiting was an early symptom in all the cases, and diarrhea was present in nearly all of them. The temperature ranged from 101° to 104° F. and continued from three to six days usually. Severe sweating was not noticed, and sore throat occurred once only. Three of the children showed rigidity of the muscles of the back and neck. Kernig's sign was present only once. None had convulsions or delirium. No lumbar punctures were made. The paralysis appeared on the third to the seventh day and was of the flaccid type in all cases, with loss of reflex. The paralyzed extremity was usually painful on motion only.

The only fatal case died on the fourth day of illness, death being apparently due to paralysis of respiration. She was first seen only four hours before death, and at that time had a flaccid paralysis of the right arm and leg, was stuporous. Temperature 102° F., no opis-

thotonos, no convulsions, and the pupils were equal. No autopsy was permitted. This was thought to be a case of acute polio-encephalitis complicating a poliomyelitis, but may have been an infantile hemiplegia.

Another case showed a convergent strabismus on the fifth day of illness with no other paralysis. This would seem to have been a case of polio-encephalitis causing a nuclear palsy of the sixth nerve only. This case completely recovered in nine months.

One case, the young man of 24, resembled somewhat a Landry's type of paralysis, the right lower extremity being involved first, then the left lower, and finally the right upper. He also had urinary retention for several days. The rest of the cases were of the ordinary spinal type. Two were of the abortive type, with complete recovery within less than three months.

One upper extremity alone was involved in one case only, one upper and one lower in two cases, one upper and both lower in one case, and in one case the eye only was involved. In ten of the fifteen cases one lower extremity alone was paralyzed.

Of the fifteen cases, one died, six have completely recovered, one I have lost trace of, and seven still show more or less atrophy and paralysis. In five of these seven cases the condition seems to be still slowly improving, while the paralysis is stationary in only two. I have noticed that the recovery from paralysis is quite rapid in most cases during the second and third months, but much slower from then on.

So far as I know there has been only one case of this disease in Hibbing this summer. This case was a boy of two and one-half years who was taken ill the last of August with the usual symptoms, including sore throat and sweating, but did not develop paralysis until the last of the second week of his illness. He has a paralysis of one lower extremity only.

There are two cases at Chisholm, a town five miles from Hibbing, and I understand there are several cases at Proctor, a small town near Duluth.

DR. H. W. HILL (Epidemiologist of the Minnesota State Board of Health): I must apologize for not presenting this matter in finished shape. I have had no chance to tabulate, having been continuously on the road, seeing cases in all parts of the state. Since the Winona outbreak began I have seen about 100 cases of frank poliomyelitis, besides securing 50 or 60 good detailed descriptions of other cases.

With regard to the distribution throughout the state: Last year (1908) there were probably 150 cases in the state, which is about one-fourth the number which occurred in the state this year (1909). The distribution of the cases in 1908 was very wide, but few in any one place, except that at Northfield there were 34 cases, and at Hibbing 16 cases, the rest of the cases being scattered. The cases were not recognized in many instances, and the great majority were not reported. Even the Northfield epidemic was not reported until this summer. We did not know until July of this year about the Hibbing epidemic of last year; the physicians did not report.

This year there have been many cases in St. Paul, perhaps 250 to 300 cases; in Minneapolis about 30 to 40 cases; in Winona 35; and there have been large numbers throughout the state generally, probably 250 to 300 cases outside the Twin Cities. Two factors make the figures only approximate,—non-report of good cases and reporting as poliomyelitis of cases not

poliomyelitis. When time permits, I have hope to report on these in full. Meantime I can give only the general impressions I have received on my visits.

The cases this year are much better reported, and we have heard from a fairly large percentage of them, but we have seldom failed to find that, in investigating conditions in any locality, enquiries addressed to the physicians in that locality who have not before reported, very frequently elicited accounts of suspicious cases which further examination showed to be poliomyelitis.

We do not know exactly, for reasons already given, how many cases of real poliomyelitis existed. Still less do we know the number of "abortive" cases. In some localities their name is legion. I was in one locality where 56 cases were reported, and upon examination I was able to satisfy myself that a conclusive diagnosis could be made in only 4 of the 56. One other may have had the disease. If the others had it it was in a form not clinically recognizable, and not clinically discernible from follicular tonsilitis.

The studies made of the literature relating to this disease in Norway and Sweden by Dr. Sneve and others make it appear to me that there must be two distinct types of the disease. One, which I will call the Scandinavian type, is the type in which sore throat and diarrhea are initial symptoms. The other is the type we have had in the majority of cases in Minnesota, in which sore throat is almost always absent, and constipation is a striking feature. If these apparent differences should prove at all constant they may correlate with and explain another difference, i. e., the other fact that the Scandinavian type has been reported as remarkably contagious, while the other type has not been contagious, at least so far as most of the evidence available shows. It is easy to understand that a disease in which the throat is the seat of infection may be much more easily transmitted from person to person, than are diseases the infection of which is confined to the tissues or even the intestine.

With regard to the type of patient affected: I thought at first there was some relation to nationality. In Winona we found a great many Poles and Germans affected, while other nationalities were comparatively free. But in Finlayson chiefly Finns were affected; in Northfield, chiefly Americans; and so on. In other words, the numerically prevailing nationality in the community affected controlled the nationality of the patients and not any ethnological factor.

The families affected, it seemed to me, almost always presented evidences of a low nutritional condition. The patient in most instances was notably the strongest and most robust and energetic child of the family. That seemed to be a very constant and striking factor. This seems at first a contradiction of the statement that low nutrition is an invitation to the disease, but I reconcile these two things in my own mind thus: in these families, those who were most energetic and active suffered most, because they were burning up what nutrition they had more quickly, i. e., lived up most closely to their nutritional income. Few of us know much about nutritional physiology, but it is the best explanation I have to offer.

We have not been able to find any evidence to show that poliomyelitis is contagious. I found usually only one case in a family. In some families where two or more cases occurred the cases came down together;

and in other instances they came down so far apart that the interval between them exceeded the incubation period which the Scandinavians place at from one to five days or from one to seven days. Evidently when cases come a month apart they fall outside of that period. Personally I do not think it is contagious; i. e., nothing like as contagious as diphtheria or scarlet fever. Whether it is as contagious as typhoid fever we cannot yet determine. My own belief is that if contagious at all, the type we have had in Minnesota this year is only very slightly so.

In regard to the age of the children: We know that the majority of the cases are found in the younger children, but it is not true to say that it is a disease limited to children. Exact tabulations for the recent epidemic are as yet lacking.

In studying the epidemiology of the disease I have gone into everything I could think of or that was suggested to me. I went into the question of eating dirt. Dr. Sweeney of St. Paul stated to me that an enema in one case resulted in bringing away three ounces of sand, showing that the child had been indulging in a liberal diet of dirt. In Winona and in some other places, many cases occurred in families that had gardens of their own, and the children naturally pulled vegetables and ate them raw, getting a small quantity of dirt in their mouths, but we could trace no constant connection with this habit.

As to insects: I was able to establish that flies and mosquitoes were unusually abundant this year all over the state. Enquiry of the State Entomologist to find out whether any species of insect other than flies and mosquitoes was universally prevalent resulted in a negative answer. Weeds were very abundant, but not constant. Indeed, I followed up everything that might be suspected, reasonably or unreasonably, of having any connection with this disease, but so far as I was able to go all investigations ended blindly. The only thing practically invariable was dust. Dust was common everywhere, but it was true that during this summer most cases were found where dust was most abundant, and usually the dust was such that it was mixed with horse manure, i. e., street or barnyard dust. I do not affirm any relationship; I only suggest it, and I am aware that others, not myself, have found apparent exceptions to the rule.

That leads me to another interesting point, and that is the presence of the disease in horses at Lake City. I have here a brief note written by Dr. C. S. Shore, of Lake City, at my request. It describes a disease in horses, three cases of which I saw myself in company with Dr. Shore early in August, 1909.

"In my veterinary practice during the last five or six years I have found a disease appearing among one and two year old colts that shows a line of symptoms corresponding very closely to anterior poliomyelitis of children. I have had from five to ten cases a year during this time, the cases always occurring during the summer months, and the majority of them during the month of August. The affected colts are usually found in the pasture unable to stand. The owner will notice sometimes an unsteady gait for twenty-four hours before entire loss of motion occurs. At first these colts have a rise in temperature ranging from 103° to 104° F.; pulse and respiration accelerated; animal sweats profusely; appetite remains fairly good, but there is some trouble noticed in swallowing, espe-

cially water; slight derangement of the bowels, tending toward constipation; more or less tympanites present; retention of the urine, for a few hours at least; head drawn back so that the end of the nose tends to assume a position somewhat on a line with the neck. The death-loss is less than ten per cent, but of those which do recover the market value is depreciated to a very great extent, because of the faulty gait the animal assumes after an attack of this disease, due to atrophy and contraction of certain muscles or certain groups of muscles. It seems that the flexor muscles of the limbs especially are more often affected than the extensor, and in almost all the cases some of these deformities are likely to remain permanent. The flexors of the limbs are liable to contract and cause volar flexion of the fetlock. The elevators of the head are also likely to be affected so as to cause the head to have a 'pokey' appearance, that is, it is carried out from the body.

"After one of these attacks the colt will remain down from one to three weeks, and will then continue to improve for a period of one year, but seldom, if ever, makes a complete recovery."

That description surely coincides clinically with anterior poliomyelitis as we encounter it in the human. I saw these cases early in August; and although from constantly examining horses at various places thereafter I had the opportunity to become quite an expert veterinarian, where one of a number of horses which local interest brought to my attention, showed exactly the history and symptoms described.

In Proctor they described to me two chickens which had these symptoms, one of which died and the other recovered.

I want to mention a symptom not hitherto recorded which I first noticed some time ago and which has been constantly present in all the cases I have seen since. It is this. If the lower extremities are extended in a straight line with the body and the knees are extended a sharp pain right behind the knee is complained of. If mere extension does not elicit pain, keep the limbs in this position, and flex the foot on the ankle gently. The pain behind the knee-joint thus produced is sharp, and unless gently done the child will usually cry. (Applause).

DR. H. E. ROBERTSON (University of Minnesota): It has been my privilege this fall to perform three autopsies on undoubted cases of poliomyelitis.

Case 1 was a boy two and one-half years of age. The child was sick eight days. After the usual febrile disturbance, paralysis of both arms and legs, on the right side first and finally of the bulbar centers, developed. Autopsy was limited to the examination of the spinal cord. On opening the dura, marked excess of clear cerebrospinal fluid escaped. On section of the cord, in the upper portion of the cervical enlargement was a pinhead-sized hemorrhagic area located in the right anterior horn of the gray matter. The area was softened, and bulged on gentle pressure. It extended up and down the cord for a distance of about 5 mm. Cultures from the cerebrospinal fluid showed the presence of a Gram-positive diplococcus, non-pathogenic to guinea-pigs or rabbits.

Case 2 was a baby boy, nine months old, sick only sixty hours. General limpness was present throughout the entire body for twelve hours before death. A com-

plete autopsy was obtained. Examination of the organs was negative except for swelling of lymphoid tissue, which was noted in the spleen, lymph nodes, thymus, and follicles of the intestine. The brain and cord surfaces were deeply congested, and clear cerebrospinal fluid was present in excess. A transverse section of the cord showed a small hemorrhagic focus in the gray matter of the anterior horns, the highest in the right side of the medulla, varying in location from side to side as far down as the lower thoracic portion. Cultures from the cerebrospinal fluid gave a Gram-positive diplococcus. This organism, studied by the St. Paul City Board of Health, was inoculated into animals with negative results.

Case 3 was a girl, aged three, sick about fourteen days with paralysis of both arms and legs, and death followed from respiratory failure. Aside from the congestion and softening of the spleen and congestion of the pia-arachnoid, the gross lesions were confined to the pons and cord. Hemorrhages were present in the anterior horns as far up as the peduncles of the cerebrum. In the cervical enlargement the hemorrhagic area was larger on the left side. Only the lower thoracic cord was free from hemorrhages. In the lumbar enlargement hemorrhages were present on both sides, and these areas were soft and pulpy. Cultures from this case were made and studied by Dr. Chesley of the State Board of Health. A Gram-positive diplococcus was obtained from spleen, heart's blood, lateral ventricle of the brain, cerebrospinal fluid, throat, and middle ear. This organism resembles in morphology and cultural characters the coccus described by Giersvold and also by Fox.

*Microscopically the lesions in every case have resembled each other. They may be briefly listed.

1. Congestion of vessels, especially those leading to the anterior horns.

2. Perivascular infiltration of p. m. n. and mononuclear cells, the latter being both lymphoid and endothelial in type.

3. Infiltration of the pia and nerves running from the anterior horns.

4. Necrosis of the gray matter of the anterior horns, especially the ganglion cells, with diffuse infiltration of p. m. n. and mononuclear cells.

5. Hemorrhages into the gray matter of the anterior horns.

6. Thrombosis of the vessels in the region of the hemorrhages (seen only in Case 3).

7. Dilated lymph-channels.

8. Occasional infiltration along lines of vessels extending into the base of the brain and also the posterior horns of the cord.

DR. A. J. CHESLEY (Minneapolis): The Minnesota State Board of Health laboratory has received for examination specimens from twenty-four cases of poliomyelitis. Spinal fluids were sent in from sixteen cases, but five showing no growth and four being badly contaminated, only seven were suitable for investigation. From six a Gram-positive diplococcus, corresponding in every detail of morphology and media reaction to the description of Giersvold's diplococcus given by Fox, was obtained in pure culture, and further experimentation is now in progress. A hearty co-operation of physicians is urged in obtaining nose and throat cultures.

*Illustrated by microphotographic lantern slides made by the Lumiere process of color-photography.

spinal fluid, blood, etc., for examination from every case, and in securing permission for post mortem examinations to be done by competent pathologists as soon after death as possible, that every facility may be had in the effort to determine the cause of this disease and a specific remedy for its treatment or prevention.

DR. F. F. WESBROOK (Minneapolis): As you have doubtless understood, all this information given by the various workers has been gotten together very hurriedly. There has been extreme difficulty in the getting of material for study in time to be of service. Dr. Hill has gone all over the state trying to locate past and present cases of the disease and to list, so far as possible, what appear to be causative factors. Dr. Robertson, of the University laboratories, has held himself ready at all times to conduct autopsies on cases which resemble anterior poliomyelitis. He is still engaged in careful pathological examination of materials collected at autopsy. Dr. Chesley of the State Board of Health laboratories, has examined, bacteriologically, all material submitted, including, as you have seen, spinal fluid from living cases and tissues and fluids collected at autopsy. He and Dr. Robertson have undertaken animal experiments, which will be continued.

We take this opportunity to ask the co-operation of the profession and the people of the state, in attempting to determine the cause of the disease and to get further light upon its pathology.

All of us are asked every day, "What is the cause of the disease and what can be done to protect the patient's family?" We have to say that we do not know. Our ignorance causes a panic which is altogether out of proportion to the number of cases and deaths which occur in the community. Let us do everything in our power to put this disease on the same basis as diphtheria, typhoid fever, tuberculosis, and other communicable diseases, which are really much more to be feared on account of their case- and death-rates, but in which our knowledge as to cause and prevention gives us a sense of real power.

The State Board of Health should be notified at once whenever a case appears, and each of you should do his best to secure early autopsy in fatal cases. The disease makes no discrimination as to the date of its appearance; and with the limited appropriations and the small number of workers available, it is sometimes almost impossible to meet all the demands that arise, and it is impossible to abandon entirely work in diseases whose etiology and pathology are known, in order to study those which are as yet in obscurity. However, attempt will be made to take advantage of every opportunity that is given to study this disease. (Applause).

DR. H. M. BRACKEN (Minneapolis): A few words relative to the abortive type referred to. When studying an epidemic, as we are in this case, we need reports of *all* the cases, otherwise we cannot determine the mortality-rate. I want to emphasize the fact that it will not do to exclude the so-called abortive cases.

DR. C. R. BALL (St. Paul): There is great need for a new name for this disease. Some time ago I was called in consultation on a man over six feet tall, weighing in the neighborhood of two hundred pounds, broad-shouldered, and strong-armed, and the family wanted to know what the trouble was. I did not like to say anterior poliomyelitis, so I said infantile paralysis. It was very hard for them to keep from laughing. The

next time I was more discreet. After I had made an examination of a little girl, the father wanted to know what was the matter. I said, "Sir, your daughter has anterior poliomyelitis." The man threw up his hands, and said, "Oh, my God! she is as good as dead." It seems to me these two illustrations emphasize the need of a new name. We need some simple well-understood name that covers the ground. Last month I suggested in our local society upon the presentation of this subject that we call this disease "epidemic paralysis." It seems to me this name is simple, and it is descriptive. We have no other paralysis which is epidemic. Objection was made that the disease occurs in sporadic form. Then we may refer to the sporadic type of epidemic paralysis.

DR. J. C. BOEHM (St. Cloud): I had seven cases of poliomyelitis in the city of St. Cloud in 1905, and two other cases following the state fair. All these people had been attending the state fair and had come home. One was taken sick in Minneapolis, and a diagnosis of typhoid fever was made. The child was taken home, and on the third day after it reached home, paralysis set in in the legs and lower extremities. This was the seventh day of the disease. In these cases there was no sore throat. Every one had vomiting and diarrhea and the temperature ranged from 102° to 104° F., the first five or six days. Paralysis followed in the next five or six days, but there was no death in all these cases.

DR. J. W. ANDREWS (Mankato): I have six cases of anterior poliomyelitis to report to this body. They have all occurred since the middle of August, and five of them occurred during the latter part of September. The first case was in the higher region of Mankato, back from the river. It was a case of a child four years old. Had it not been for the presence of this epidemic in other parts of the state I think that case would have been diagnosed as a sporadic case. The case has fully recovered from the acute symptoms, and I think is now rapidly recovering from the paralysis following. This case was in a German family. The next case was in a Scandinavian family east of Mankato, on a dusty road near the river. There were four in that family. Three of them had anterior poliomyelitis. The fourth child was sent away from home as soon as the cases were diagnosed, and the other three, ranging from two to ten, had a very typical run of the disease. The eldest boy at home, ten years old, died. There was one thing peculiar about his case. The cause of death was paralysis of the muscles of respiration, and the condition was very noticeable and peculiar. I was with him when he died, and a moment before death I could count his pulse readily, and it was not very rapid. With my stethoscope, I could determine the strength of the impulse of the heart, but his respiration was very labored, and in that condition he died. It made me think of fatal cases of poisoning with salicylate of physostigmine where the heart's action was good up to the moment of death. One peculiar thing about the girl, who was six years old, was that anteriorly the legs were completely paralyzed almost from the onset of the disease, but no other group of muscles was affected. She had every evidence of complete paralysis of the extensors of the leg, but the flexor muscles and other groups of muscles were not affected.

DR. E. Y. CHILTON (Howard Lake): I have had five cases of this trouble, four in one family. One aged twenty-eight days and one four years old died in four days from respiratory paralysis. The infant was sick only three days. One other child, four years old, was unable to walk for a time, but later made a good recovery.

The next case in that family was a little girl six years old. I saw her when the premonitory symptoms began, the day before she was paralyzed. She was able to walk, with some pain. Her temperature was 103° F. The next day she was unable to walk, the lower extremities being completely paralyzed. This child had few premonitory symptoms, and when I saw her she had complete paralysis of both upper and lower extremities with retention of urine. The parents of these children lived on the river, and the older children had played in the water and had been allowed to eat anything they wanted, green corn and things of that kind. This child was six years old, when her bowels were moved the nurse said to me that she had passed a quart of green corn. I said to her it seemed like an exaggeration. She said she did not measure it, but it was nearer a quart than any other measure, so I gave a laxative, and the child passed more corn and green apples. This little girl is in her seventh week now, she can put both hands to her mouth, but there is complete loss of motion in both lower extremities. Her general health is fair, and there is very little atrophy of the muscles.

I saw the case of a boy, four years old, with few premonitory symptoms, wake up with one arm paralyzed. That child had not been away from home and no other children with him. He was the only child in the family. The other members were adults and none of them were sick.

I wish to speak of a family of ten children where the disease I believe was of an abortive type. They had coughing, and one of them was partially paralyzed in the right leg. This boy, ten years old, whom I saw walked with a staggering gait, and he had pain and the usual soreness in the back and legs, and he had a great deal of pain when the leg was extended. He complained of the pain Dr. Hamilton speaks of.

DR. V. J. HAWKINS (St. Paul): I wish simply to state that I have had about fifteen cases with five deaths. The cases were all typical, and it would take too long a time to go into them.

I wish to emphasize the fact that we should do all we can in the way of studying this disease, this epidemic. It seems to me that this infection must be carried through the blood, as well as the lymphatics. I got a specimen of blood from a very typical case and took it to our health office in St. Paul for examination. The results so far have been negative. Still, it seems to me we ought to keep right on on these lines. I mention this to show that we should all get what evidence we can when we are in a position to do so and take it to the proper authorities for examination. We should not let any of these cases go by without attending to that feature, and it will be of great help to us in fighting or curing the disease.

DR. L. A. NIPPET (Minneapolis): It is evident that we must get away from our old ideas of infantile paralysis. The abortive cases so much resemble meningeal infection that it is necessary to recognize these

abortive cases. In the light of the papers which have been read on this subject today I am sure I have seen two or three abortive cases; one with symptoms resembling influenza followed by flaccidity of the lower limbs, and both recovering after ten days to two weeks.

I wish to inquire whether cold has any influence upon the disease, and whether, in case of recovery after an attack, they are immune to another attack.

DR. W. A. JONES (Minneapolis): About eight years ago I saw some twelve cases of paralysis in children which agreed closely with the epidemic of the present time. I called them multiple neuritis. It seems to me they followed almost identically this epidemic in their characteristics. I believe we are applying a misnomer when we designate all these cases as anterior poliomyelitis, but I disagree with the suggestion of Dr. Sneve that we ought not to call everything anterior poliomyelitis. You might as well make a distinction and say some are "anterioritis," and some are some other "itis." The distinction is no different. I believe they all belong to the general infection of the nervous system.

DR. HALDOR SNEVE (Essayist): I hope the members will not get the impression from what Dr. Hill said that there is a Scandinavian type different from any other type of this disease.

The work done at the laboratory of the Minnesota University with the sera from some of our St. Paul cases confirms the work of Geirsvold. This epidemic has been in this neighborhood for the past three years to my personal knowledge, and since the disease has

not recurred in the same locality but once in the history of fifty epidemics we can feel quite secure that the localities already ravaged will escape in 1910, but there is great danger that other places in and near our state may suffer from the disease next summer, and I wish to urge upon you the necessity of making lumbar punctures in the first four days of the disease and sending the specimens to Drs. Robertson and Chesley. Their work in conjunction with the others who have found this diplococcus is of the greatest possible value.

It is probable that the reason that they have not found the diplococcus in New York and Boston is owing to the possible lateness of the punctures, because most of these specimens are sterile after the first few days.

In regard to the sore throat: The Scandinavian epidemics show in the vast majority of cases that an angina is a preliminary symptom.

The various epidemics show skin rashes in the form of herpes, papules, or macules; none of these are distinctive and some of them are accidental.

In regard to Dr. Nippert's question about cold; I will say that most of the cases occurred in July, August and September, but the records from the New York Pediatric Hospital show from twenty to forty cases every month of the whole year.

We have cultivated the conception *multiple neuritis* intensely the past fifteen years. I predict that we will go back to an involvement of the ganglion cells of the cord in most cases that clinically appear to be this disease.

A CLINICAL REVIEW OF POLIOMYELITIS WITH A REPORT OF EIGHTEEN CASES*

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ST. PAUL

The clinical history of the epidemic of so-called poliomyelitis through which we have just passed, is essentially that of the widespread epidemics which have occurred during the past three or four years, in both Europe and this country.

The clinical picture of the different epidemics is essentially the same, but that of the individual cases is frequently so varied as to lead one unacquainted with the pathology to believe himself to be dealing with entirely different affections.

Between the years of 1899 and 1907 there occurred in Norway and Sweden a widespread epidemic of a disease many of the cases of which corresponded to that of an acute poliomyelitis. There were, however, so many cases which,

though resembling the typical ones in some respects, were so diverse in others that they were thought by many authorities to be of separate origin.

Heine, in 1840, believed the disease to be of a purely spinal nature. Medin in 1898, was able to demonstrate, at the same time, cerebral, spinal, and peripheral involvement. A monograph was published by him in French in 1898.

The careful clinical investigations of this epidemic by Dr. Ivar Wickman, of Stockholm (Jahrbuch für Kinderheilkunde Ergänzungsheft, 1908), together with the pathological studies of Harbitz and Scheel and the bacteriological findings of Geirsvold, Norway's epidemiologist, have thrown a new light upon the character of the disease, demonstrating all these forms to be only different phases of the same disease. A translation of Dr. Wickman's article from the

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German by myself, together with abstracts from the Scandinavian of the works of Harbitz, Scheel, and Geirsvold, by Dr. Haldor Snéve, appeared in the St. Paul Medical Journal for September. In this clinical study of 1,025 cases, Wickman describes the following forms:

1. The poliomyelitic form.
2. The ascending or descending form (Landry's).
3. The bulbar form.
4. The encephalitic form.
5. The ataxic form.
6. The polyneuritic form.
7. The meningitic form.
8. The abortive form.

Since there is nothing in the literature to compare with this clinical analysis by Wickman, incorporating, as it does, every phase of the disease as seen by him, I believe I cannot do better than to quote him in detail, and, in conjunction, append a clinical history of my own cases, and those of others which have come under my observation. Since I was unable to make any pathological studies, I will leave that to Drs. Robertson and Hill, who have done such admirable work throughout the state during the present epidemic. For a more detailed description of the disease in all its forms, the reader is referred to Dr. Wickman's monograph, published in German in 1908.

Poliomyelitic form.—The sickness almost always begins acutely with fever and general indisposition. The expressed opinion of several authors, that in a great percentage of the cases the paralysis appears without preceding initial symptoms, is certainly incorrect and rests upon insufficient observation. Sometimes the acute symptoms are preceded by indefinite prodromata. Sometimes the disease develops in two phases with a distinct pause between, so that the patient, partially or even completely, recovers from the initial symptoms and then again becomes ill with accompanying paralysis.

Among the initial symptoms are pain and a somewhat characteristic hyperesthesia. Another series of initial symptoms are meningitic irritation, pain in the back of the neck, and sometimes complete opisthotonos. In many cases the gastro-intestinal symptoms, vomiting and diarrhea, are so severe that the disease assumes the stamp of an acute gastro-intestinal catarrh. During the first days it is not seldom that retention of urine is observed, but this disappears, without exception, in a short time. The severity of the onset and of the initial symptoms cannot

be depended upon to determine the future course of the disease.

The generally accepted opinion that the paralysis continues for life and that it is always attended by atrophy and the reaction of degeneration, is not true; on the contrary, there are many cases which only show a transient paralysis of several days to several weeks when the paralysis completely disappears.

The paralysis may involve the different muscle groups and may sometimes limit itself to a definite muscle group, e. g., the muscles of the neck. Sometimes most unusual symptoms appear, e. g., the pupillary symptoms and optic neuritis.

Sensibility to pressure over the nerves and muscles appears in a considerable number of cases. In rare cases there is a marked interference with sensibility, or partly a dissociated paralysis of sensation, or sometimes a complete anesthesia as a result of the changes in the anterior horns of the cord. Pretty constantly appears a diminution in the so-called electric sensibility, and, indeed, in many cases one can speak of a partial paralysis of sensibility or sensation.

Concerning the tendon reflexes: The patellar reflex comes chiefly under consideration. These do not, by any means, show the constant absence which is generally supposed to be present. An exaggeration of these reflexes may precede their complete disappearance. In incomplete paralysis of the leg a remaining increase of the patellar reflex may remain. In affections of the upper part of the cord the patellar reflex may be increased as an indication that the white substance is also involved.

Landry's form.—In another series of cases the disease takes on an extensive course, and, indeed, the different muscle groups may become involved, either in an ascending or descending manner.

In case the muscles of respiration are involved, which means an affection of the respiratory center, the disease assumes the form of a Landry's paralysis. Since the progress of the paralysis may be more easily followed in adults than in children, the erroneous reports, which are found generally in the literature, explain the different ages, as also the prognosis of poliomyelitis. Landry's paralysis in a child is generally diagnosed as poliomyelitis, while a fatal poliomyelitis in an adult is generally diagnosed as Landry's paralysis.

Bulbar form.—The bulbar and brain forms

may occur together or separately. Most often in these forms facial paralysis appears, but frequently also an affection of the hypoglossus and eye muscles may occur. Sometimes the disease takes the form of an acute bulbar paralysis, but this form appears to be rare. Sometimes there exists an injury to the center of accommodation, and thereby an ataxia of the cerebellar type or an exaggerated condition of the reflexes may occur.

Encephalitic form.—Under this form are considered all cases of cerebral paralysis.

Ataxic form.—This form appears as a transient, acute ataxia, which most frequently resembles the cerebellar type.

Polynuritic form.—When I mention this as a separate form I do so from purely practical grounds. During the epidemic many cases appeared which when grouped were that of a distinct polynuritis. To this form belong, first, cases which in a comparatively short time completely recover, especially when they are accompanied by well-pronounced disturbance of sensation, such as pain and parasthesia; second, cases which present such local symptoms as pain upon pressure on the nerves and muscles, and which may be regarded as an affection of the peripheral nerves; third, those cases under form 5 mentioned as the ataxic form. The last two forms, 5 and 6, correspond to what is described in the literature as acute motor infectious neuritis. Clinically they cannot be differentiated from this form, but etiologically they are not identical. The pathological investigations have not been able to differentiate these forms, but since so many cases occurred during this epidemic of poliomyelitis, we must assume them to be of common origin and that the disease is really a transient poliomyelitis. That the differential diagnosis between acute poliomyelitis and polynuritis under other conditions must first be considered, is self-evident.

Meningitic form.—As before mentioned, in the initial stage and, indeed, not seldom meningitic irritation appears. This may be so severe and characteristic that one thinks he has to do with an acute meningitis. Later, however, the appearance of the paralysis usually makes the condition clear. The usual paralysis may, however, remain absent, so that the whole course is that of a meningitis serosa. This was demonstrated during the epidemic, clinically as well as by autopsy.

It is then, natural to conclude that at least a part of the sporadic cases of serous menin-

gitis results from the poison of the acute poliomyelitis.

The opinion of several investigators that there exists a relation between the etiology of epidemic cerebrospinal meningitis and infantile paralysis, is, in my opinion, not sound. The difference in the whole course of the diseases, in the individual symptoms, as well as in the anatomical changes, are so great that we are justified in regarding them as two distinct diseases.

Abortive form.—Frequently other cases occurred in the vicinity of the typical cases of poliomyelitis, which, in general, gave only the picture of a general infection, but of which the symptoms correspond to the initial symptoms of the typical ones. Such cases must be termed abortive forms. One can, however, differentiate different types of the abortive form:

(a) Cases which run the course of a general infection.

(b) Cases in which there is some meningitic irritation.

(c) Cases in which the painful symptoms are well pronounced (influenza type).

(d) Cases in which the gastro-intestinal symptoms are especially marked.

How far anatomical changes of even the slightest degree are present in these abortive cases is not, with any certainty, decided. Concerning these details I must refer to a recent work in this subject by myself and also to the well-known work of Harbitz and Schell.

The number of cases seen by me personally was eighteen. Many of these were in the practice of other physicians and were seen in consultation or through courtesy.

There was no essential difference in the character of the onset from that described by other writers, except that I observed many cases in which the initial symptoms began with what looked like a typical follicular tonsillitis, and, indeed, there seemed to be nothing more present until evidence of involvement of the central nervous system appeared. In the Swedish epidemic Dr. Wickman does not mention angina, but says that gastro-intestinal symptoms were prominent at the onset in many cases. Holt says, in a recent edition, that the only disease with which there seemed to be any reason to connect poliomyelitis in an etiological way during the epidemic of 2,000 to 3,000 cases in New York was gastro-intestinal.

In my series of cases, seven began with sore throat, five of which assumed the form of an acute follicular tonsillitis. Cases 4, 5, 6, 7, 9,

13 and 16, with the exception of Case 9, had no symptoms referable to the digestive tract. All the other cases had some digestive disturbance, especially was vomiting common to all. This I believe, in some of the cases in the absence of other intestinal symptoms, to have been only of reflex origin. In few of the cases was diarrhea present, but, on the contrary, the bowels were sluggish and responded poorly to physic, and the stools were in these cases usually offensive in character.

In Cases 4 and 9, one of the ataxic and polyneuritic type, the other a fatal Landry's type, there was retention of urine. This was only partial and in Case 4, which recovered, disappeared after four or five days. In all but three cases there was marked mental torpor, amounting in some, to coma. In Case 4, which was of the mixed ataxic and polyneuritic type, there was no marked mental torpor. The pain, on the other hand, was so severe as to require drastic measures to relieve it, since the boy, a plucky fellow of eight, complained bitterly of the intense pain in his legs, arms, and the back of his neck. In the case of the fatal Landry's form (Case 9) the young man, 18 years old, was conscious to within a few minutes of the time when he died, of paralysis of respiration. I witnessed this young man die, the heart remaining strong for several minutes after he ceased to breathe. Breathing had been difficult for several hours before. In none of the cases, except Case 16, did paralysis appear in any muscle or group of muscles without being preceded by a stormy prodroma, and the severity and length of the prodromal symptoms seemed to have no definite bearing upon the severity or extent of the paralysis which followed. In three cases, Nos. 2, 13, and 14, the prodromal stupor lasted for from three to five days, during which time there was in two of the cases aphasia, paralysis of deglutition, and strabismus. All three cases weathered this severe storm and emerged without any permanent paralysis, and after a brief period were apparently perfectly well.

Case 1 was of particular interest, demonstrating, as it does, how hopeless these cases may apparently seem and still recover. This case, as will be seen from the history, would fall under the meningitic form. It was the first case I had seen. This infant, fifteen months old, had slept almost continuously for three days. Breathing was stertorous in character and became very difficult, with the appearance of cyanosis when the child was disturbed and the eyes were wide

open and fixed (no strabismus). There was no movement of the left arm and no movement of the head in any direction, the neck muscles being perfectly flaccid, and the head could be moved in all directions without the slightest resistance, although the child shrieked, apparently from pain. I made a lumbar puncture for diagnostic reasons, and withdrew about 40 c. cm. of clear fluid under high pressure. Within one-half hour the mental torpor, which had been profound, cleared up so that the baby played with the nurse's watch-charm, and the movement of the left arm was materially increased. (Culture—no growth). In only one other case did I make a lumbar puncture, Case 2, a patient of Dr. Judd Goodrich's. This infant was dying at the time of a Landry's form, and only a few c. cm. of very turbid serum under very little pressure was procured. This was sent to the University Laboratory, and Dr. Robertson reported the finding of a diplococcus corresponding to that discovered by Geirsvold.

Concerning the abortive form of the disease described by Wickman: There are many cases which, after more or less severe initial symptoms, develop only such slight paralysis as to fix the diagnosis.

It is reasonable to assume that many of the cases which develop side by side and have identical symptoms with others which are followed by paralysis, are really mild or abortive forms of the disease. Since, however, these symptoms do not differ essentially from those accompanying other infections, such as influenza or gastroenteric disturbance, one would not be justified in diagnosing such cases, usually, as poliomyelitis. In instances, however, where several members of a family have, within a few days of each other or at the same time, suffered from symptoms similar in character, following or during which paralysis has developed in one or more of the cases, we are justified in diagnosing those which have shown similar symptoms, but which have not developed paralysis, as abortive forms of the disease. There are many cases which in conjunction with the general indisposition, show marked nervous irritability; symptoms which do not fit into any of the other infections, such as influenza, tonsillitis, etc. For example, on August 5th, one of twin boys, four years old (patients of Dr. Goodrich), had severe digestive disturbance and vomiting, bad stools, temperature, and was drowsy for three or four days and then recovered. Five days after the onset the twin brother was

taken with the same symptoms and of about the same severity. He developed a paralysis of the sternocleidomastoid muscle on one side. Five days after the onset of No. 2, the baby, two and one-half years old, was taken with similar symptoms and developed paralysis of both arms and also of the neck muscles. That No. 1 was an abortive case there can be little doubt.

Since the pathology has been so exhaustively studied by Harbitz and Scheel, as well as by others in this country, there can be no doubt as to the infectious character of the disease. If the diplococcus described by Geirsvold be the specific organism, then what is the port of entry to the system? or does the organism develop locally in the throat or intestinal tract, in the manner of diphtheria, and produce toxins which are responsible for the profound and selective action upon the nervous system? The absence of growth upon the spinal fluid in most of the cases would favor this view. The early involvement of the peripheral nerves in some of the cases so closely resembles a toxic neuritis that there is no means of differentiating, except that in many of those cases paralysis also appears which fixes the diagnosis. See Case 4.

There is much diversity of opinion, especially in the West, as to the manner in which the disease is disseminated. In Europe Medin, Harbitz, Scheel, and Wickman are a unit in believing the disease to be contagious, and Holt, in a recent publication, also concurs in their opinion. I have in mind several instances which, though not conclusive proof, are strongly suggestive of the contagious character of the disease.

Cases 6 and 7 occupied the same room in the State Ward at the City Hospital. On August 18th Case 6 developed a sore throat with high fever and general malaise. He rapidly sank into a mental torpor, in which condition he remained for several days. The temperature remained rather high during this time. A paralysis of the right arm developed, which, for the time being, was practically complete. Two days from the onset in Case 6, Case 7 developed sore throat, high fever, and mental torpor, although not as profound as Case 6, but it was of the same in character. This lasted several days, when he developed a paralysis of the right arm. These two were the only cases which developed in the hospital. I have at hand instances in the practice of other physicians where several cases have developed at regular intervals in the same family, seemingly demonstrating, in some cases at least, the contagious character of the disease. Wick-

man and his confreres also believe that the disease can be carried by a third person. He cites one instance of a servant girl who had served in a family where there were two cases of poliomyelitis. She came to work in another family a long distance from these cases. Four days after her arrival a small boy in the family developed the disease. The mother took this boy home (she had been only visiting at this place). Seven days after her arrival home the father came down with poliomyelitis, and still another case developed in the same house. These were the first cases to develop in that locality and were the center of a considerable epidemic.

Although the evidence is not conclusive, still, I think, we should assume the disease to be contagious, and treat it as such, taking all the precautions as to isolation and quarantine which would be deemed necessary in any of the known contagious diseases.

Treatment.—The treatment must be symptomatic until more is known of the etiology. In cases of meningitic-serosa type, lumbar puncture may be of benefit, relieving, as it did in Case 1, an accumulation of serum under high pressure. The ice-bag is undoubtedly of great benefit, especially where there is much headache and where the temperature is high. For local treatment of the affected muscles time is the greatest factor, together with some manipulation, to prevent atrophy from disuse. The use of electricity may also be of benefit. In the polyneuritic type, where the patient complains of intense pain in the limbs, hot moist applications I find to give great relief and reduce the necessity of giving narcotics.

In conclusion, I shall read the history of the cases, grouped, as far as possible, under the forms described by Wickman. Most of the cases are mixed forms, the predominating symptoms deciding the heading under which they are placed.

CASES

Poliomyelitic form, No. 1 (Case 3).—K. B., age 3 years. Fairly well developed child, has had no serious illness previous to this time. Present illness began twelve days ago, July 28th. Complained of being tired, and had pain in abdomen and fever. Bowels constipated, and stools of offensive odor. The following five or six days slept all the time, except when aroused, and then lapsed back into sleep again. When he aroused from this stupor the parents found he could not move his left arm. Present condition, August 9th: Mentally, normal, but very nervous and irritable. Walks with stumbling gait. Paralysis now limited to deltoid and biceps of left arm.

*Poliomyelitic form, No. 2 (Case 8).—*Seen August 20th. Boy, age 14 months; breast-fed; has been well since birth until four days ago, when he became drowsy, had fever, and stools were of offensive odor. Slept almost continuously, but could be aroused to take nourishment, after which he immediately went to sleep again. After several days it was noticed that he did not move his left leg. Temperature continued above normal, and the stools were offensive in character. Patellar reflexes absent; upon pricking the feet with a pin he draws his knees up, but extends the legs again very slowly, especially the left. Unable to extend the toes of either foot. Subsequent history: Temperature gradually became normal, the mental torpor disappeared, and the muscular power of the legs steadily improved. October 25: Has regained use of all muscles except the extensors of left foot.

No. 3 (Case 6).—Boy, age 7 years. Inmate of State Hospital for Crippled Children. Pott's disease. Had been in usual health until a few days ago, when he had fever and sore throat. He rapidly sank into a state of mental torpor, in which condition he remained for several days. During this time he developed a paralysis of right arm, which, for some weeks after he was convalescent, was practically complete. October 25th: He has some pronation and supination and is able to flex the fingers somewhat.

No. 5 (Case 16).—Boy, aged 20 months. Breast-fed for ten months. Always been well until five weeks ago, September 20th, when he had some fever and sore throat, and was listless for a few days. On the second day after the onset of the symptoms the left arm became paralyzed. There was slight transient strabismus. October 29th: Now able to move fingers somewhat and has slight pronation and supination. No extension or flexion of forearm. Deltoid also involved.

No. 4 (Case 7).—Boy, aged 5 years. Inmate of State Hospital for Crippled Children. Occupies room with Case 6. Was in usual health until he developed fever and sore throat five days after the onset in Case 6. Was in a state of mental stupor for several days, when he developed a paralysis of right arm, but not so complete as in Case 6. October 25th: Paralysis has practically disappeared, except that there is little power in muscles of the forearm, and the handgrip is very feeble.

*Landry's form, No. 1 (Case 9).—*H. L., age 18. Well until two days ago, August 22, 1909, had severe headache and some sore throat. Bowels were very constipated. Vomited several times. Next day had trouble in using legs; had to crawl from bath-room to bed. This increased so that at night he could not move them. Next morning had some difficulty in breathing, and had retention of urine. At 2 p. m. on the third day I saw him when he had ceased breathing; was cyanosed, but the heart was strong for several minutes, when he died of paralysis of respiration.

*Landry's form, No. 2 (Case 18).—*August 12. Baby K., aged 3 years. Bohemian; patient of Dr. Judd Goodrich. Illness began with indisposition; temperature 101°. Some digestive disturbance, not severe. On the third day the legs became paralyzed. The following day both arms were paralyzed, and the breathing was somewhat difficult. The mental condition up to this time had remained clear. When I saw the child on the same day, he was unconscious, cyanotic,

and breathing was very slow and labored. A lumbar puncture was made and a few c. cm. of turbid serum were removed under very low pressure. The child died one-half hour afterwards. No autopsy.

*Bulbar form, No. 1 (Case 13).—*F. L., aged 6. Patient of Dr. Hopkins, White Bear Lake. History of child up to four days ago, uneventful. Was taken with what appeared to be a typical follicular tonsillitis: temperature, 101-103°. During the following three days he continued to have fever and sore throat. On the third day he had some hallucinations. Thought he saw "things," and then began to have difficulty in breathing, was cyanosed, and when Dr. Hopkins saw him he had marked edema of the lungs. She gave him some atropine hypodermically, which greatly relieved the breathing. In the evening of the same afternoon I saw him with Dr. Hopkins. The breathing was slow and irregular. Marked strabismus of both eyes. Swallowing extremely difficult, and a teaspoonful of water produced a violent fit of choking and coughing. The reflexes were markedly exaggerated. Koenig's sign present. Stroking the soles of the feet produced a violent spasm of all the muscles, and the head, which was already somewhat retracted, was violently thrown back, also the back muscles, producing for a moment a condition of opisthotonos. Temperature, 103°; pulse very frequent. Dr. Hopkins informs me that the boy remained in that condition for four or five days, when he began to improve and gradually regained all functions and is now perfectly well, without paralysis. During this time he developed a pneumonic area in one lung.

*Bulbar form, No. 2 (Case 10).—*Boy J., aged 8. Patient of Dr. Scholpp, of Hutchinson, Minn. He had always been well until he had grip one year ago, when he had some involvement of the middle ear, but without any discharge from the ear. Had considerable pain at times in occipital region. Four days ago, October 2, he had fever and vomiting. Bowels were constipated, and the discharges were rather foul. Yesterday he began to have difficulty in swallowing and also in talking. He complained of severe pain in the left arm and leg, and was sensitive to pressure, especially over the nerve-trunks in these limbs. Present condition: Mental torpor, wakes up with difficulty, and seems to understand what is said, and tries to answer questions, but cannot articulate. Has much mucus in the throat, which he cannot swallow. An attempt to swallow a teaspoonful of water produced a violent "choking spell." Lapses into sleep, even when he is being talked to. Breathing, about normal. Some slight strabismus of left eye. Reflexes: Patellar, absent. Plantar, exaggerated. Kernig's sign present. Wrist and elbow present. Has much pain in back of neck on extension and flexion of head. A recent report from Dr. Scholpp says that the boy developed on the following day a partial paralysis of the left arm and neck muscles. After four or five days, during which time he was fed entirely per rectum, he began to improve, so that he could swallow; the mental condition cleared up, and he is now gradually regaining the use of his muscles. There is still some aphasia. The extent to which the paralysis will be permanent can only be determined later.

Encephalitic form (No cases).

The ataxic and polynuritic forms.

No. 1 (Case 4).—C. J., aged 8. Strong, healthy boy. Began yesterday, August 12th, to have sore throat, with pain and aching in bones and muscles. Had apparently a typical follicular tonsillitis (and that is what I thought it to be). The same evening the mother telephoned that the boy had severe pain in his legs, but I believed it to be an accompaniment of the tonsillitis and did not see him. Temperature, 103°. The next day the mother telephoned that the pain had been very severe all night in the legs, and that when he attempted to walk he fell. An examination revealed temperature 101°. Pain upon movement of the legs and on pressure over the muscles. Pain on movement of head at back of neck. Has limited motion on extension of the toes of the left foot; no other limitation of motion. Mental condition, normal, but extremely nervous. Has some retention of urine. Bowels constipated. When he attempts to walk it is with an ataxic gait, and he staggers and falls. October 25: He was well, except for a paralysis of the extensor muscles of the toes of the left foot, which had markedly improved since I last saw him.

Meningitic form, No. 1 (Case 1).—Boy, aged fifteen months; rather poorly nourished; had pneumonia at 6 months; no other illness. Three days ago, July 25th, he became listless and drowsy. Cried out in sleep as if in pain. On the morning of the third day he did not move his head nor his left arm. Cried out when disturbed. When seen by me a few hours later the baby lay with eyes open, but with fixed eyeballs; no strabismus. Breathing slow, deep, and irregular. Cries out as if in pain when moved. Moves legs and right arm, but does not move left arm or head in any direction. Neck muscles are perfectly flaccid, so that the head can be moved in all directions without any resistance. Such manipulations seem to be painful. When the baby cries or struggles the breathing becomes very difficult, and cyanosis appears. Temperature, 98.8°; pulse, 65, irregular. Lumbar puncture made and about 40 c. cm. of clear fluid under high pressure withdrawn. Culture showed no growth. Within one-half hour after the withdrawal of the fluid the baby moved the left arm considerably, and the mental condition was so much improved that it played with the nurse's watch-chain.

Subsequent History.—The improvement has been progressive, the paralysis of the arm has entirely disappeared, and the neck muscles are rapidly regaining their normal strength, so that now (October 25th) he can hold his head erect for a considerable time. The breathing on exertion is still somewhat labored, but has improved much during the past two weeks.

No. 2 (Case 10).—Female, aged eleven months; breast-fed; no previous illness. Two weeks ago, August 11, had vomiting and green stools and high fever. The child became apparently unconscious, but nursed when put to breast. Ten days after the onset of symptoms, the left arm and leg were paralyzed; moved fingers a little. Present condition, August 25th: Baby apparently comatose; eyes open. Strabismus of right eye. Moves right arm and leg constantly; also some movement of left arm and leg. Has been unable to swallow since yesterday. Breathing slow and irregular; pulse rapid and full. Baby died on the following day.

No. 3 (Case 11).—Boy, aged 3 years: patient of Dr.

Olander. Has had no previous illness. Five days ago, August 20th, had high fever and complained of being tired. The following day he played out of doors and was apparently in usual health. Two days following had muscular twitching of the muscles of the legs, arms, and face, and swallowed with some difficulty. When seen (August 25th) the boy lies with eyes turned up. When spoken to seems to understand, but cannot answer. Some paralysis of left side of face. Moves legs and arms. Breathing slow and regular; pulse, 120; temperature, 101.8°; reflexes exaggerated. Subsequent history: Dr. Olander informs me that after four or five days the mental condition cleared up, the difficulty in swallowing and speaking disappeared, as did the facial paralysis, and in a week he was apparently well.

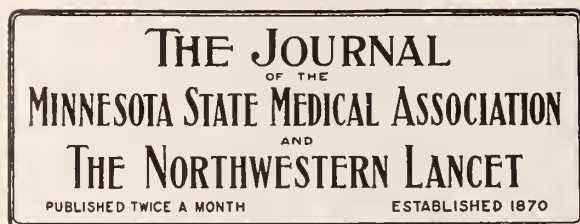
No. 4 (Case 12).—Female, aged eight months. Patient of Dr. Staley. Two days ago (August 24th) had vomiting and constipation. Yesterday had convulsions. Present condition: Infant comatose; breathing stertorous; does not move left leg; some muscular twitching of right leg; patellar reflexes absent. Died a few hours later with paralysis of respiration.

No. 5 (Case 17).—G. B., aged 7 years. Patient of Dr. Cummings. The boy had always been healthy. August 1st had severe headache and became very nervous and excitable. Vomited. No other intestinal disturbance. Reflexes exaggerated. Dragged left leg, although he could move it in all directions. Merged quickly into comatose condition. Took food and drink mechanically, but did not understand what was said to him. Patellar reflexes now absent; no paralysis apparent; no interference with breathing. After four or five days, during which time he remained in this comatose condition, he gradually aroused and in a week was apparently well. No paralysis or limitation of motion in any muscles. Patellar reflexes now present.

Abortive form, No. 1 (Case 5).—Boy, aged 5 years. Very nervous child since birth, but recently in good health. Aug. 13 had temperature of 102° and vomiting. Bowels constipated. Movements of foul odor. Some slight sore throat. During the night was extremely restless; had marked twitching of muscles of face and extremities. Slept with eyes half open. Examination reveals some redness of throat. Marked exaggeration of reflexes. Temperature, 102°. Muscular twitching. Marked pain in back of neck on extension or flexion of head; also pain upon pressure over muscles and especially over nerve-trunks. After several days the symptoms disappeared.

No. 2 (Case 18).—Boy, aged 4 years; one of twins. Patients of Dr. Judd Goodrich; began August 5 having vomiting; green stools, and high temperature. Was very drowsy and wanted to sleep all the time. After three or four days he recovered. Two other children in the same family having exactly the same symptoms developed paralysis, one of the sternocleidomastoid, the other of both arms and neck muscles.

Cotton will hold more securely on an applicator if the tip of the latter is dipped in collodion before winding it. The employment of this device will afford a sense of security when applications are made in urethra, bladder, or deep sinuses.—American Journal of Surgery.



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JANUARY 1, 1910

POLIOMYELITIS

Doubtless each generation of medical men is, in its day, prone to think that medical progress has reached so high a point that little can be added, though in recent times, the wonderful findings in bacteriology, for example, have tended somewhat to shake this complacent view. That so much that is new concerning the purely clinical phases of poliomyelitis could be learned would scarcely have been believed five years ago. Yet the whole tendency of the discussion in poliomyelitis, as here presented, would seem to show that almost every man who has had practical experience with the disease has found it necessary to change his clinical viewpoint. Last year many cases of poliomyelitis passed unnoticed. This year, with a more modern conception of the disease, it has been widely recognized; yet it is quite possible that even in its clinical aspects and relationships, to say nothing of its epidemiology and pathology, there is still much more to be discovered than has so far been found out. That such a disease as that described by Dr. Shore could have gone on for six years without adequate clinical description or patho-

logical study should serve of itself as a stimulus to better work and as a promise of adequate opportunities for investigation for everyone who wishes to engage in original research.

Considering the number of deaths that have occurred from poliomyelitis in Minnesota in these two years the opportunities for the study of post-mortem pathology of the disease have been all too few, yet with such material as has been provided, it is doubtful if as good work has been done anywhere else in this country, and the work of the Department of Pathology of the University and of the State Board of Health is deserving of the highest commendation.

But little has been added to the sum of our knowledge of the means of spread of the disease. It is certain that, in most localities it, has been quite impossible to trace the line of contagion, though it is equally certain that sufficient attention to the spread of the disease by abortive cases and by healthy carriers has not always been given.

In diagnosis the recognition of the typical cases with localized paralysis has been easy, but the abortive cases and those with well developed symptoms of meningitis have proven stumbling-blocks to many practitioners. Especially concerning the abortive cases there is evidently a wide divergence of opinion. That such cases do occur, most men concede, but when the illness lasts only a few days and no paralysis results it will of necessity be difficult to say what is and what is not poliomyelitis until a bacteriologic or serum test is possible.

When the symptoms of meningeal involvement have been marked from the outset, a diagnosis of some of the more classic varieties of meningitis has usually been made and it has often required one or more spinal punctures to demonstrate that a meningococcus or pneumococcus infection, for example, is not present. To recognize that poliomyelitis is an acute toxic condition and that meningeal irritation may be as much a part of the condition as paralysis aids greatly in giving us a proper view of such cases.

THE JOURNAL-LANCET is much pleased to be able to present to the literature of poliomyelitis, the contribution found in the articles and discussion in this number.

THE STOVAINE-STRYCHNINE METHOD

The newspapers have been filled with accounts of Professor Jonnesco's experiments with spinal anesthesia, and the public are discussing one of the "new wonders" in medicine.

It is hardly necessary to inform medical men that spinal anesthesia for surgical work is many years old, and that inevitably new combinations in drugs will spring up from time to time. The lay reader devours this information and forms his own conclusions. The one idea that seems most dominant in the minds of the public, is the horror and consciousness of knowing that an operation can be done without the patient's being put to sleep. The medical man who has watched the surgeon remove a thyroid gland under cocaine, injected locally, or remove a prostate gland under spinal anesthesia where the same drug is employed, will not share the shudders of the public mind.

The method of injecting drugs into the spinal canal for anesthetic purposes is one that demands great care notwithstanding the apparent simpleness of a deep injection. It requires considerable skill to accurately determine the best point of entrance for the needle, as shown by the repeated failures of the surgeon to tap the canal for spinal fluid. A number of men have proven their skill in entering the spinal canal, in order to make bacterial examinations in the recent epidemic of paralysis from infections of the nervous system, but a large number have attempted to secure fluid and have failed. In order to perform this minor surgical operation successfully one must know the general anatomy of the spine, must know the position best suited for the individual case, and must consider the possibilities in meeting with slightly abnormal development in the arrangement of the vertebræ and their cartilages. Then, too, it requires a certain sense of touch to know when the canal has been entered. The reckless or ignorant operator may do injury to the cord, but, as a rule, no injury results when reasonable care is used. There is an added responsibility, however, when, in addition to the above-mentioned requirements, a drug is to replace the withdrawn spinal fluid. The patient with his individual characteristics, idiosyncrasies to drugs, his disease, his age, and the probable duration of the operation, must be fully studied.

For these reasons it is wise not to urge the unskilled to rush to spinal anesthesia. The medical man or one who is acquainted with neurology should aid the surgeon in his decision.

The general surgeon is so accustomed to the use of ether or chloroform that any new method is looked upon with suspicion and, perhaps, justly so, for comparatively few people have been operated upon under spinal anesthesia.

When one considers the number of patients suffering from chronic diseases of the heart, kidneys, or lungs, and remembers the anxious days following an operation when the patient struggles to eliminate the anesthetic and hovers between life and death because his functions are temporarily paralyzed, it is no wonder that a more safe and sane method of anesthesia should attract attention. The medical profession will wait for further experiments before giving a final approval.

Let us hope that the new method, whatever drug is employed, will be tried by competent hands and not hastily condemned because a few unsuccessful incompetents fail in penetrating the muscles around the vertebral processes. It is unfortunate in many ways that so much publicity is given to untried methods in medicine. Too often the man who is wholly unqualified is the one who blindly rushes into a new field in order to gain newspaper notoriety. Fools rush in where experts fear to tread!

THE BURNING OF MILLARD HALL

The University Medical Department loses one of its old landmarks, temporarily at least, by the fire that destroyed Millard Hall. The loss to the building and its contents reaches nearly \$70,000, but the loss to individuals is a personal and serious one.

The most serious inconvenience will fall upon the Dental Department. The students have long lacked room for work or expansion, and it will require quick work on the part of the builders to put the building in shape for occupancy.

The Regents have authorized the statement that immediate repairs will be made and that students may resume their work within two weeks. The Department of Pharmacology has suffered equally with the Dental Department, and this will cause some further delay on account of the destruction of its laboratory and lecture charts. Dr. Brown, the director, suffers a personal loss in his library, notes, and other literature.

The building of Millard Hall recalls the days of Dean Millard and his strenuous methods, as well as his tremendous zeal in securing the building.

The destruction of the building emphasizes the oft-repeated necessity of building fire-proof structures. Perhaps the Regents will authorize its architects to provide safe structures for valuable materials.

The medical course will not be interrupted, although an additional lecture-room will be needed, and this is already provided for. Students are expected to report for duty on time, and all classes will go on with their regular work.

BOOK NOTICES

PRACTICAL DIETETICS, with Special Reference to Diet in Diseases, by W. Gilman Thompson, M. D., Professor of Medicine in the Cornell University Medical College. Fourth edition. Cloth, pp. 928, with illustrations. Price \$5.00. New York, D. Appleton and Company, 1909.

Dr. Thompson's book has done much to compensate for the all-too-common lack of training in dietetics in medical colleges. Even among well-trained physicians there are few who have any definite idea as to the nutritive value of the different food materials or of how to construct a dietary suited in quantity and quality to any given condition.

In the present text-book, in addition to a consideration of the scientific principles involved, there is a discussion of, and a representative dietary given, for each stage of life, for the various occupations, for increasing and decreasing weight and for each disease which is at all influenced by careful feeding.

Proper consideration is given in this fourth edition to the rapid advances in recent times in the knowledge of foods, and the book is brought thoroughly up to date. It concludes with an elaborate series of dietaries from various hospitals and institutions, and with full directions for the preparation of those foods most commonly employed in feeding the sick.

In this book Dr. Thompson has given us a thoroughly practical and reliable work well suited to the needs of everyone who practices medicine.

REPORTS OF SOCIETIES

WATONWAN COUNTY SOCIETY

The Society held its annual meeting on Dec. 15th at Madelia. Officers were elected for the current year as follows: President, Dr. W. H. Rowe; vice-president, W. J. McCarthy; secretary-treasurer, Dr. B. H. Hayes; delegate, Dr. C. O. Cooley; alternate delegate, Dr. Albert

Thompson; censor for three years, Dr. W. H. Rowe.

B. H. HAYES, M. D., Secretary.

HENNEPIN COUNTY SOCIETY.

The stated meeting of the Society was held on December 6th with sixty members present.

A resolution was passed to hold one or more open meetings each year for the education of the public in sanitary matters, in accordance with the resolutions of the A. M. A. upon the point.

Dr. L. W. Day presented a case of apparent scarlet fever, but as the disease followed a surgical operation, the question arose as to whether it was a case of scarlet fever or surgical scarlet fever.

Dr. H. L. Ulrich showed two cases of tuberculosis which had been treated with tuberculin with marked improvement.

Dr. Archa E. Wilcox read a paper on "Excision of the Head of the Radius."

Dr. Stanley E. Kerrick was elected to membership.

PROGRAM OF THE SPECIAL STUDY—COURSE

January 12th.....Dr. Thomas G. Lee.

General embryology and morphology of the nervous system.

January 19th.....Dr. J. B. Johnston.

The neurones; their structure, growth and relationships.

January 25th.....Dr. J. B. Johnston.

The anatomy of the spinal cord and brain stem, gross and microscopic, with a review of the longitudinal paths.

February 2d.....Dr. J. B. Johnston.

Subject for January 19th continued.

February 9th.....Dr. J. B. Johnston.

The anatomy of the brain cortex, gross and microscopic, with consideration of the association and projection paths.

February 16th.....Dr. J. B. Johnston.

Subject of February 9th continued.

February 23d.....Dr. C. A. Erdmann

Topographical and surgical anatomy of the brain and skull.

March 2d.....Dr. C. A. Erdmann

The peripheral distribution of sensory and motor nerves.

March 9th.....Prof. J. B. Miner

The relation of psychology to medicine. What is meant by the psychological point of view. Its relation to physiology. The description of mental facts. Four types of explanation. Controlling experience through the mind. The most promising fields of psychological investigation for medicine.

March 16th.....Prof. J. B. Miner

The subconscious. Criticism of the common use of the term. The scientific use of the term. Examples of subconscious and unconscious phenomena and suggestions for their control.

- March 23d.....Prof. J. B. Miner
Dissociation. The organic nature of the mind.
The relation of normal to abnormal mental conditions as illustrated by the facts of dissociation including secondary personalities. How to bridge the gap.
- March 30th.....Prof. J. B. Miner
Suggestion. What the history of this phenomena teaches. Direct and indirect suggestion. Hypnotism. Principles for control by suggestion.
- April 6th.....Prof. J. B. Miner
Retardation. The theory on which training is based. The work that is being done today. The relation of the psychologist to the physician in this work. What the outlook is.
- C. H. BRADLEY, M. D., Secretary.

NEWS ITEMS

Dr. George W. Dewey, of Burnett, Wis., has located at Fairmont.

Dr. O. D. Platt, of Granville, N. D., has moved to St. Maries, Idaho.

Dr. J. E. Corrigan, of Spooner, has moved into his new hospital building.

Dr. A. G. Sanderson has resigned from the staff of St. Peter State Hospital.

Dr. Henry D. Diessner, a recent graduate of Pennsylvania, has located at Chaska.

Dr. George Earl has located in St. Paul to be associated with his brother Dr. Robert Earl.

Willard Hall, at the State University, was almost wholly destroyed by fire last week. It will be rebuilt.

The fees in the College of Medicine of the State University have been raised from \$100 to \$150 a year.

Dr. John G. Warren, of St. John, N. D., was married last month to Miss Dora Brooks, also of St. John.

Dr. W. H. Powell, of Kasota, was married last month to Miss Carrie McConkey, of Le Sueur Center.

Dr. V. J. LaRose, of Bismarck, N. D., is home after taking a course of post-graduate work in Philadelphia.

Dr. H. J. Rowe, of Casselton, N. D., was married last month to Miss Rose Messner, of Hibbing, Minn.

Dr. Gertrude Stanton, of Minneapolis, was married last month to Mr. Joseph H. Jones, also of Minneapolis.

Dr. M. J. Shaughnessy, of Wabasha, was mar-

ried last month to Miss May C. O'Brien, of South Farmington, Mass.

Dr. G. A. Eisengraeber, of Young America, has moved to Granite Falls, and taken the practice of Dr. Harold Rees, of that place.

Dr. J. P. Weyrens has withdrawn from the firm of Drs. Claydon, Johnson & Weyrens, of Red Wing, and will probably locate elsewhere.

Dr. C. A. Lester, of Princeton, has given up his private hospital, and will take his patients to the new Northwestern Hospital of that place.

Dr. S. P. Rees, of Minneapolis, will return from Europe this week. Dr. Rees has been doing post-graduate work for several months, mostly in Vienna.

Dr. Charles Lindburg, of Fairdale, N. D., was killed last month while attempting to board a moving train. Dr. Lindburg graduated from the University of Minnesota, class of '05.

Drs. Fisher & Goetsch, of Dickinson, N. D., have opened a hospital at that place, and they expect to erect a hospital building in the near future.

Dr. Oscar K. Richardson, of Minneapolis, died last month at the age of 42. Dr. Richardson was formerly a member of the Homeopathic Faculty of the State University.

The contract has been let for putting in the basement of the building for the Jordan Sulphur Springs Sanitarium, at Jordan. The building will be 231x50 feet in size, and is to be completed by June 1st.

Dr. H. O. Skinner, of St. Paul, and Dr. E. E. Austin, of Minneapolis, have been elected professors of the Homeopathic College of Medicine of the State University, to take the place of old faculty of Homeopathy.

The second examination for nurses will be held at the City and County Hospital, St. Paul, on the 10th inst. Hereafter only graduate nurses will be granted state registration and all graduate nurses must pass an examination for a certificate.

The new building of the South Dakota Hospital for Insane, at Yankton, S. D., is ready for occupancy. This building was erected under the supervision of Dr. L. C. Mead, the superintendent, who is one of the best posted men in this country on hospital planning and construction.

The Soo Railway surgeons held their annual

REPORTED FROM 72 CITIES HAVING A POPULATION OF 1,000 OR UPWARDS
FOR THE MONTH OF OCTOBER, 1909

CITIES.	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Acute Anterior Polio Myelitis	Typhoid Fever	Diarrheal Diseases of Children	Cancer	Puerperal Septicemia
Albert Lea	4,500	5,657	4	1				2				1				1	
Anoka	3,769	4,053	1			1											
Austin	5,474	6,489	0														
Barnesville	1,326	1,566	4														
Bemidji	2,183	3,800	0				1								1		
Blue Earth	2,900	3,364	0														
Brainerd	7,524	8,1	12			1										1	
Chaska	2,165	2,085	0										1	2			
Chatfield	1,426	1,300	0														
Cloquet	3,074	6,117	5			1											
Crookston	5,359	6,794	8				1							2	1		
Detroit	2,060	2,149	3														
Duluth	52,968	64,942	76	5	1	4	1	2					2	8	3	3	1
East Grand Forks	2,077	2,481	4														
Ely	3,712	4,045	2	1												1	
Eveleth	2,752	5,332	3	1													
Faribault	7,868	8,279	8			1											
Fairmont	3,440	2,955	1										1			1	
Fergus Falls	6,072	6,692	13	1													
Granite Falls	1,214	1,340	3		1							1					
Hastings	3,811	3,810	3			1							2				
Hutchinson	2,495	2,489	2														
Jordan	1,270	1,311	1														
Lake City	2,744	2,877	5														
Litchfield	2,280	2,415	5	1	1											1	
Little Falls	5,774	5,856	4												1	1	
Luverne	2,223	2,272	2														
Le Sueur	1,937	1,842	1														
Madison	1,336	1,604	1														
Mankato	10,559	10,996	18	2	1			2								1	
Marshall	2,088	2,243	2														
Melrose	1,768	2,151	1														
Minneapolis	202,718	261,974	288	30	4	24	4	20				2	8	10	20	19	1
Montgomery	979	1,281	1														
Montevideo	2,146	2,595	3		1							1					
Moorhead	3,730	4,794	7			1							1				
Morris	1,934	2,003	1														
New Prague	1,228	1,419	0														
New Ulm	5,403	5,720	4													1	
Northfield	3,210	3,438	7										2			2	
Ortonville	1,247	1,612	3														
Owatonna	5,561	5,651	9			1		1					1				
Pipestone	2,536	2,885	0														
Red Lake Falls	1,885	1,797	3											1			
Red Wing	7,525	8,149	6										1		1		
Redwood Falls	1,661	1,806	1														
Renville	1,075	1,229	1														
Rochester	6,843	7,233	21	1									1		1	2	
Rushford	1,100	1,133	1														
St. Charles	1,304	1,238	1														
St. Cloud	8,663	9,422	8	1		1		1								2	
St. James	2,607	2,320	1														
St. Paul	163,632	197,323	173	19	3	7	1	7	3				3	6	8	11	1
St. Peter	4,302	4,514	8	1									3				
Sauk Centre	2,220	2,463	1														
Shakopee	2,046	2,069	0														
Sleepy Eye	2,046	2,312	1														
South St. Paul	2,322	3,458	2	1													
Stillwater	12,318	12,435	9												1		
Thief River Falls	1,819	3,502	3											2			
Tower	1,366	1,340	2														
Tracy	1,911	2,015	3														
Virginia	2,962	6,056	14	2		4									1	1	
Wabasha	2,528	2,619	4										1				
Warren	1,276	1,640	2	1													
Waseca	3,103	2,838	3														
Waterville	1,260	1,383	1														
West St. Paul	1,830	2,100	0														
Willmar	3,409	4,040	5	1								1			1		
Windom	1,944	1,884	2												1		
Winona	19,714	20,334	19	2		3										5	
Worthington	2,386	2,276	0														

*No report received. Health officer not doing his duty.

REPORTED FROM 65 VILLAGES HAVING A POPULATION OF 1,000 OR UPWARDS
FOR THE MONTH OF OCTOBER, 1909

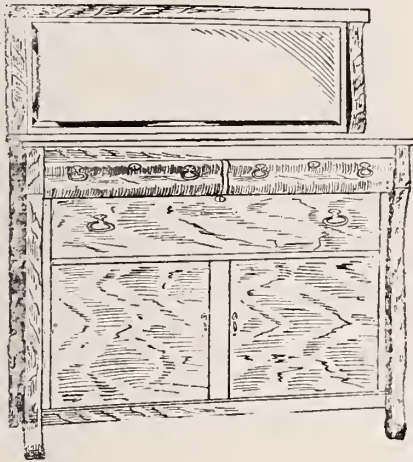
VILLAGES.	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Acute Anterior Polio Myelitis	Typhoid Fever	Diarrheal Diseases of Children	Cancer	Puerperal Septicemia
Ada	1,253	1,515	2														
Adrian	1,258	1,184	2														
Aitkin	1,719	1,896	2														
Akeley		1,636	0			1											
Alexandria	2,681	3,051	3	1													
Appleton	1,184	1,321	0														
Belle Plaine	1,121	1,301	0														
Benson	1,525	1,766	1														
Breckenridge	1,282	1,850	2														
Buffalo	1,040	1,124	1														
Caledonia	1,175	1,405	0														
Canby	1,100	1,505	1														
Cannon Falls	1,239	1,460	2														
Cass Lake	546	1,062	1														
Chisholm		4,231	4	1		1		1						1			
Dawson	962	1,056	2														
Delano	967	1,023	*														
Fosston	864	1,000	*														
Frazee	1,000	1,146	1													1	
Glencoe	1,780	1,805	4														1
Glenwood	1,116	1,718	2												1		
Graceville	856	1,032	0														
Grand Rapids	1,428	2,055	*														
Hallock	805	1,014	0														
Hibbing	2,481	6,566	19	1				2		1				2	2		
Jackson	1,756	1,776	2														
Janesville	1,254	1,205	1														
Jasson	1,112	1,049	2												1		
Kenyon	1,202	1,252	0														
Lake Crystal	1,215	1,231	1		1												
Lanesboro	1,102	1,041	3														
Long Prairie	1,385	1,256	2														
Madelia	1,272	1,290	0														1
Milaca	1,204	1,319	0														
Mountain Lake	959	1,063	1														
North Mankato	939	1,129	1														
North St. Paul	1,110	1,400	3					1	1				1				
Olivia	970	1,019	2														1
Osakis	917	1,056	0														
Park Rapids	1,313	1,719	2														
Pelican Rapids	1,033	1,095	2	1													
Perham	1,182	1,366	1														
Pine City	993	1,092	1														
Plainview	1,038	1,140	1														
Preston	1,278	1,320	3														
Princeton	1,319	1,704	1														
Rush City	987	1,041	1														
Rushford	1,062	1,040	0														
St. Louis Park	1,325	1,491	*														
Sandstone	1,189	1,589	2														
Sauk Rapids	1,391	1,552	2														
Scanlon		1,122	0														
South Stillwater	1,422	1,572	2													1	
Springfield	1,511	1,546	1	1													
Spring Valley	1,770	1,573	1														
Staples	1,504	2,163	2														
Two Harbors	3,278	4,402	10	1		1								1	1		
Wadena	1,520	1,868	3														
Wells	2,017	1,814	*														
West Minneapolis	2,250	2,530	1					1									
Wheaton	1,132	1,346	1														
White Bear Lake	1,288	1,724	1														
Winnebago City	1,816	1,553	*														
Winthrop	813	1,031	1														
Zumbrota	1,119	1,129	*														
State Institutions			28	8	1	1								1			
Other parts of State	1,012,328	1,085,886	685	68	8	50	4	9	4			8	27	15	57	33	
Total for State	1,751,395	1,979,658	1626	160	22	104	13	49	7			14	57	56	106	90	4

*No report received. Health officer not doing his duty.

38 Still births and premature births, not included in above totals.

Your Credit is Good at the New England

**Our Forty-sixth Semi-annual Half
Price Sale Manufacturers'
Fine Furniture Samples
Now in Progress!**



WE'D Like the Readers of This Magazine to Fully Understand the Character of These New England Half Price Furniture Sales.

THE New England's Outlet is a Large One. No One Knows This Better than the Manufacturers and, in Making our Yearly Contracts, They are only Too Glad to Stipulate that They Will Ship Us at the Close of the Season All Their Samples at a Price.

THE New England Handles Nothing but "Quality" Merchandise. Whether it be a Kitchen Table, a Mahogany Bed Room Suite or a Piece of Classic Upholstered Furniture, Hence the Goods Offered at These Half Price Sales are Quality Goods—Nothing Else!

THIS Year We Have Extended our Contract Lines Very Materially and the Result is That We Have Nearly, or Quite, Double the Quantity of Samples to Offer This Year We Ever Presented; All Told, Something Like Ten (10) Carloads.

THEY Represent the Cream of the Furniture Manufacturing Industry of the Country. Not an Undesirable in the Lot.

WHETHER you Live in Minneapolis or Not, It Will Well Pay You to Attend This Sale, Which Will Probably Continue Until February 1st.

EACH Piece Carries Its Price Tag. The Regular, Ordinary Value Price of the Article. This Price You are Privileged to Cut Squarely in Half.

YOU Understand There are No Duplicates; Hence Why We are Unable to Extend Our Usual Exchange and Approval Privileges. Every Selection Must, Therefore, Be Considered a Positive Sale.

TERMS as Usual; Viz., Those Terms Which Will Best Suit the Entire Convenience of our Customers.

**New England
Furniture & Carpet Company**

Complete Furnishers of Homes, Offices,
Hotels, Clubs and Public Institutions.
5th St., 6th St., & 1st Av. S., Minneapolis

PUBLISHER'S DEPARTMENT

THE WINDOW-TENT

It would be difficult to exaggerate the value of the window sleeping-tent, which is designed to give fresh air, day or night, to both the invalid seeking to *regain* his health and to the well person seeking to *retain* his. In our estimation it is an invaluable device, and the commendation given it by Drs. Greene of St. Paul and Bell of Minneapolis fully justify this opinion.

The American Tent & Awning Co., of Minneapolis and St. Paul, manufacture and carry in stock tents to fit all ordinary windows, and make to order, on short notice, tents to fit any window.

While these window-tents were designed primarily to meet the needs of the tuberculous, they are equally essential and helpful for nervous patients, and, in fact, for persons of lowered vitality from any cause. The physician who believes in the curative power of pure air will not hesitate to recommend the window-tent, and especially in this climate, which is not favorable for the out-of-door life at all seasons of the year, and much less so for invalids.

THE SANDSTONE SPRING WATER CO.

The Inglis Spring Water Co. has made a happy change in its name the word *Inglis* becoming *Sandstone*. The elegant and pure water of this company comes from the sandstone at the village of Sandstone, and hence the change of name.

It is not probable that better drinking water exists than this sandstone water, and we are confident that water is nowhere handled in a more sanitary manner. We have already described in these columns the porcelain tank-cans used by this company in transporting the water, and the methods used after it reaches the city.

If one must buy drinking water it is certainly worth while to get the best obtainable; and if this water and the method of handling it can be improved upon, we should be glad to know it.

FUNERAL DIRECTOR

Mr. J. Warren Roberts, formerly located at 710 Hennepin Ave., Minneapolis, now has commodious quarters at 913 First Ave. So., and he invites the attention of medical men to his establishment. Mr. Roberts was for a long time located in the East, and he brings to his professional work an experience and skill not possessed by many funeral directors.

His rooms meet all the requirements of private funerals, and Mr. Roberts himself is an acknowledged authority in all matters that pertain to the work of funeral directors.

CURING STAMMERING

Some months ago we spoke in these columns of the success of Mr. Wold M. Duke in his private work in Minneapolis as an instructor for children who stammer. The results of his methods were so striking as to attract the attention of the Board of Education, and Mr. Duke has been employed to give part of his time to the public schools. The demonstration of his methods before the principals of the schools was a great revelation to them, and led to his employment.

Mr. Duke will still take pupils at his private school. His methods are worthy of the highest commendation.

ADRENALIN IN A NEW PACKAGE

In addition to the ounce vials in which it has hitherto been supplied, Adrenalin Chloride Solution is now being marketed in hermetically sealed glass containers of 1 cubic centimeter capacity. "Adrenalin Ampoule" is the name used to designate the new package, and the solution is of the strength of 1 to 10,000 (one part Adrenalin chloride to 10,000 parts physiologic salt solution). In their announcement of the ampoule Parke, Davis & Co. have this to say:

"Adrenalin Chloride Solution has become a necessity in medical and surgical practice. The most powerful of astringents and hemostatics, it lends itself to many practical uses and at little risk of injury in reasonably careful hands. Since the time of its introduction it has been marketed in ounce vials, and of the strength of 1:1000. Experience has shown, however, that a weaker solution is much more frequently required than the 'full strength'; and while it is generally an easy matter to dilute with water or normal saline solution, in certain emergencies an already fully diluted preparation is to be preferred. While the danger of deterioration from occasionally opening a vial containing a solution of Adrenalin Chloride is not great, still, in consideration of the fact that a dose is needed now and then for hypodermatic injection, it is believed that the small hermetically sealed package will be welcomed because of its greater convenience and security."

As will be apparent from the foregoing that the Adrenalin Ampoule is intended for hypodermatic use. It should be of great value in such emergencies as shock, collapse, hemorrhage, asthma, etc., or where prompt heart-stimulation is desired.

A REMARKABLE HISTORY AND GROWTH

A story is told by Mr. Betz, in two pages of our advertising space, which is, indeed, very remarkable. The first impression, at least upon some readers, will be that this is a story of mushroom growth. If such be the case, the credulity of physicians supplies the rich soil necessary for such growth; but this can hardly be true, for even physicians become wise when once deceived, and they can't be fooled all the time. No, this is not the case; on the contrary, it must be that Mr. Betz has simply adopted hustling modern methods, selling almost everything the profession needs, and relying upon large sales to make a good showing of net profits at the end of the year.

As Mr. Betz is financially responsible and as he makes the physician the sole judge as to whether he fulfills his promises, no physician need hesitate to give him an order for anything needed.

A PURE WATER—ENDORSED BY PHYSICIANS

The Indian Medical Spring Water is a positive preventive of typhoid fever, if used exclusively; also a cure for rheumatism, kidney disease, eczema and all of the allied diseases of the bladder and stomach. It acts especially upon the gastric juices of the stomach, aiding the assimilation of the food, and producing new blood, which no medicine will do.

The Indian Medical Spring Water is sold as low as any other water. For prices, etc., call upon or write to

The Indian Medical Spring Water Co.,
404 Masonic Temple, Minneapolis.

A "BALKY" LIVER

Like a lazy horse, the liver sometimes refuses to work. It needs the whip of *physiologic stimulation*.

Chologestin

See "New and Non-Official Remedies"

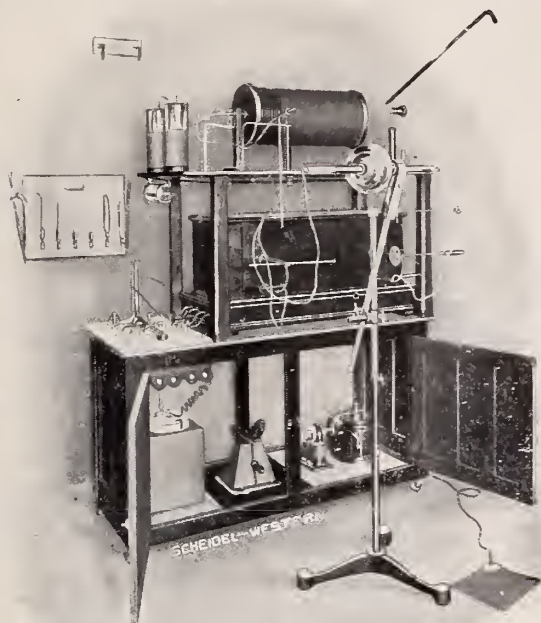
not only encourages hepatic activity, but also checks Intestinal Putrefaction and assists Pancreatic Digestion. It exercises cholagogue, antiseptic and digestive properties, and thus relieves Intestinal Dyspepsia and prevents and relieves Intestinal Auto-Intoxication.

DOSE: One tablespoonful, *well diluted*, after each meal.

Formula, samples and literature upon application.

F. H. STRONG COMPANY, 58 Warren St., New York

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The invention which took the prize offered by the Managers
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Womans belt front view.

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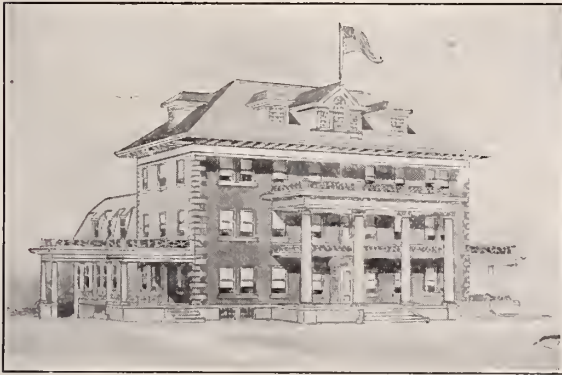
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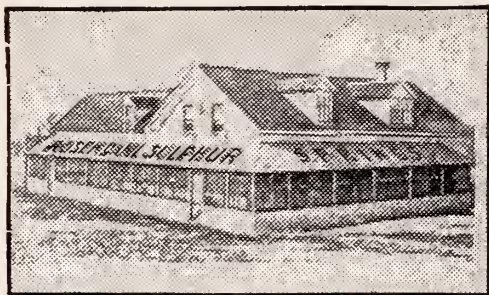


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UNIVERSITY OF MINNESOTA College of Medicine and Surgery

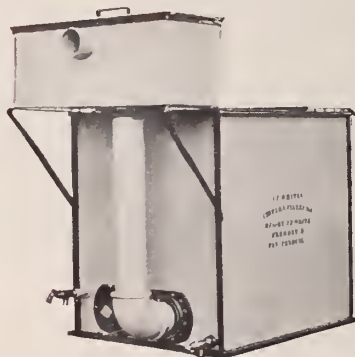
College opens September 14, 1909. The equivalent of two years full work in the College of Science, Literature and the Arts of the University which must include physics, chemistry, German or French, and biology or botany, is a prerequisite to entrance into the College of Medicine and Surgery, after which 4 years of 36 full weeks of graded medical instruction must be spent in laboratory, hospital and dispensary work. The college occupies six fully equipped, modern buildings on the University Campus and an out door patient department near by. A similar dispensary in St. Paul and all the hospitals in the Twin Cities and certain others in the state, are fully utilized. Through bequest private donations and State funds, a large hospital on the University Campus will provide additional facilities to those of the temporary hospital which has been in operation for some months. Two new medical buildings are in the course of construction.

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though one of the commonest maladies
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and as a consequence many cases of nasal
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Indicated for local application in all
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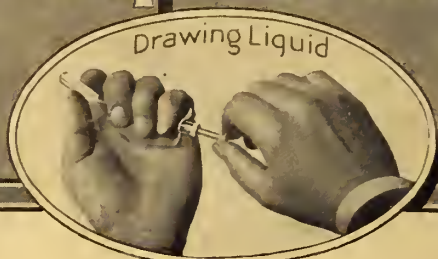
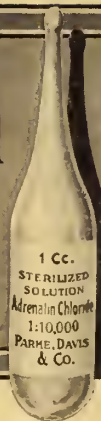
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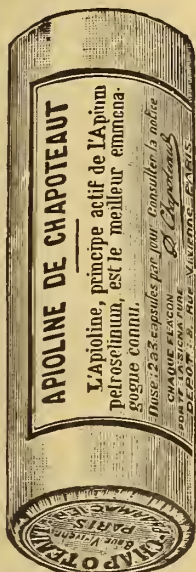
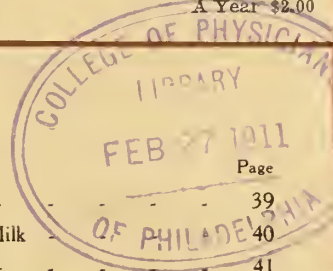
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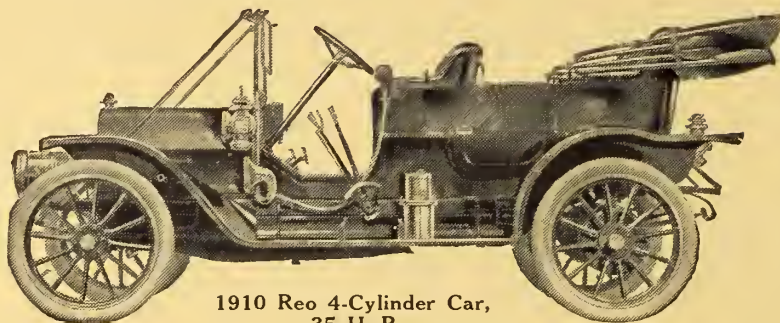
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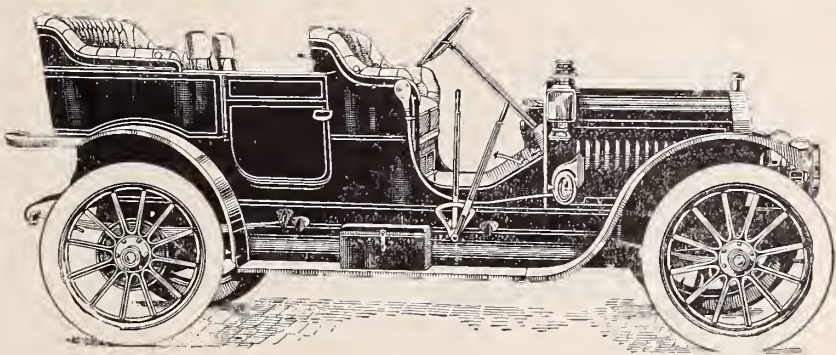
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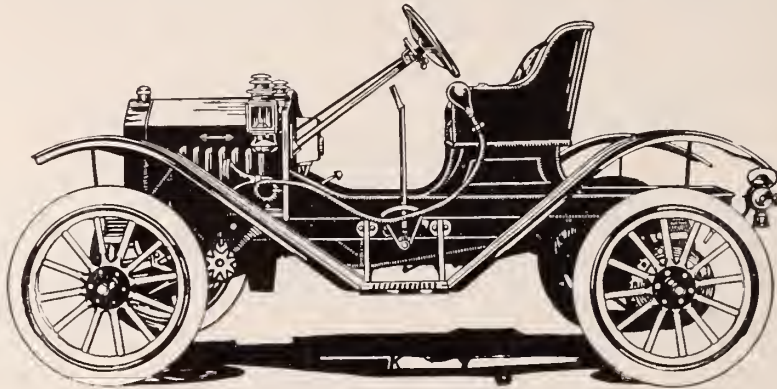
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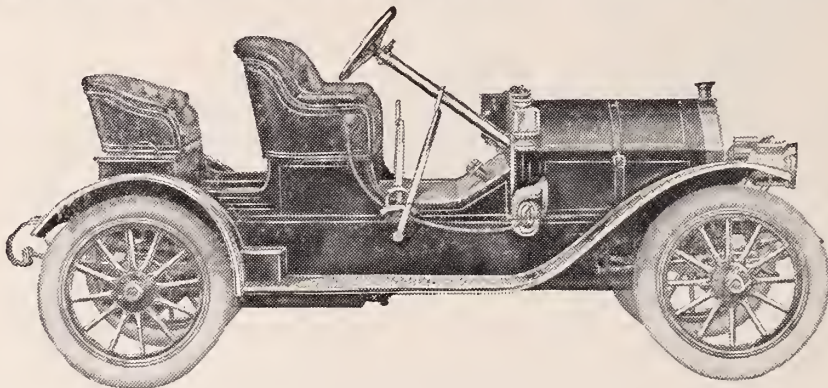
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No. 2

ADMINISTRATIVE PROBLEMS IN RELATION TO PUBLIC HEALTH*

By WALTER WYMAN, M. D.

Surgeon-General, U. S. Public Health and Marine Hospital Service

WASHINGTON, D. C.

In considering the subject assigned to me on the program, I know of no better way of treating it than by describing the activities of the Public Health and Marine-Hospital Service during the past year. I have prepared, therefore, a summary of transactions, which will not only show the work that has been done, but will give an idea of the field covered and the methods of operation.

First, with regard to bubonic plague on the Pacific Coast. You will remember that in 1900 plague was announced in San Francisco, and that for four successive years the Service and the State and local health authorities were engaged in its elimination. There were in that period 119 cases and 113 deaths. Examination of rats continued for quite a long period after the cessation of the disease among human beings, and finally operations were brought to a close; but following the earthquake and fire in San Francisco in 1906, cases of plague began to be reported. A fatal case of human plague was reported in San Francisco in May, 1907, and an active antiplague campaign was begun at once, and has continued to the present time. To June 30, 1908, there were in that city 159 cases of human plague, with 77 deaths.

During the fiscal year 1909 no further cases of human plague occurred in San Francisco, and

but four cases of rat plague, the last occurring October 23, 1908.

The operations of the Service in San Francisco included the inspection of 5,681 persons, investigation of 344 cases of illness, and 96 necropsies. The rats caught numbered 156,059, of which 93,558 were examined. The premises inspected numbered 365,925; buildings disinfected, 4,572; buildings made rat-proof, 846; and nuisances abated, 46,299.

The effect of this work with state and local co-operation, has been to place San Francisco in a satisfactory sanitary condition.

In Oakland, beginning with September 12, 1907, 18 cases and 12 deaths have been reported, but no human plague has occurred since July 17, 1908, and no rodent plague since December 1 of the same year. The number of cases of sickness investigated during the fiscal year was 170, and number of necropsies, 65. The rats caught numbered 25,889, of which 16,593 were examined, and 2 found to be infected with plague. The premises inspected number 2,550, and the buildings disinfected, 4,289.

At Los Angeles, on August 11, 1908, a case of human plague was reported, and shortly afterwards a ground-squirrel was found with plague infection. A Service officer was detailed from the Hygienic Laboratory to take charge of the laboratory provided by the local authorities. Between September 24, 1908, and April 12, 1909,

*Oration in Medicine, delivered at the 41st annual meeting of the Minnesota State Medical Association, held at Winona, Oct. 14 and 15, 1909.

when the medical officer was withdrawn, 13,922 animals were destroyed and examined for plague infection, including 4,722 ground-squirrels and 8,977 rats. None were found infected.

In Seattle, Washington, during the fiscal year 51,750 rats were caught, and 48,652 examined. There was no case of human plague, but 10 rats were found infected, the last one September 26, 1908. There have been in all but three cases of human plague discovered in Seattle since the appearance of the first case October 16, 1907, the last case occurring October 25 of the same year.

PLAGUE AMONG GROUND-SQUIRRELS

In April, 1909, investigation revealed a widespread infection among ground-squirrels in Contra Costa County, California. It is believed that no portion of Contra Costa County, which is some 744 square miles in extent, is free from this infection. About May 1, 1909, an organized campaign was inaugurated by the Service for the destruction of these animals, under the charge of a commissioned medical officer. Inspectors, foremen and laborers to the number of 30, visit the infected ranches and with local co-operation engage in the destruction of the squirrels by poisoning and shooting. Bulletins published by the Bureau, containing all necessary information, are at the same time distributed. There have been to October 9, 34,000 squirrels destroyed, of which number 286 have been found to be infected. The warfare has been extended to adjoining counties, and an average of 300 squirrels a day are being destroyed. Four thousand, one hundred and twenty-six ranches have thus far (October, 1909) been inspected. It will be necessary to continue this work for an indefinite period until all this plague infection has been eliminated.

PLAGUE IN OTHER COUNTRIES

Plague has markedly diminished in India. For the fiscal year 1909 there were but 168,403 cases, as against 730,729 for the previous fiscal year, and more than 1,022,000 for the fiscal year 1907.

In South America the situation remains about the same as a year ago, the disease still existing in Ecuador, Peru, Chili, Uruguay, Brazil and Venezuela. No cases were reported from Argentina. In Peru 1,192 cases with 560 deaths have been reported. In the West Indies Trinidad was afflicted with 18 cases, 14 being fatal. The menace to the United States, therefore, still continues. Of special significance to the United

States also were the outbreaks of this disease in Fayal and Terceira in the Azores Islands. Unceasing vigilance will be required in quarantine administration to prevent the further introduction of this disease. Medical officers are on duty at Guayaquil, Callao, Rio Jateiro and La Guira, and special instructions have been issued for close quarantine surveillance and for the destruction of rats aboard vessels.

TYPHOID FEVER

Three years ago the Commissioners of the District of Columbia, on account of the continued prevalence of typhoid fever in Washington, requested the Public Health and Marine Hospital Service to make an investigation to determine the cause of this continued prevalence. A board was therefore appointed, and has just completed its third report, known as Hygienic Laboratory Bulletin No. 52. The Board is still investigating, and will make a fourth report, which will terminate its labors. The investigations thus far made indicate that somewhat less than 10 per cent of the cases of typhoid fever are definitely attributed to infected milk.

The three years' study have shown that in 1906, infected milk, contact, and imported cases accounted for 30.93 per cent of the cases for that year, 48.46 per cent for 1907 and 46.76 per cent for 1908. The Board states that it does not seem probable that for the seasons 1907 and 1908 Potomac water could have been directly responsible for much, if any, of the infection, and there is not yet sufficient evidence for positive conclusion as to just what part this river water has played in the causation of the disease in previous years. They call attention to the frequent neglect of disinfection of excreta, and the need of legal control of typhoid fever patients and typhoid bacillus carriers, and the necessity in general of treating this disease as a contagious disease.

These reports have an additional value in presenting a standard method of investigating the causes of the prevalence of typhoid fever in a city, which standard has already been followed by the cities of Richmond and Pittsburg. Results obtained in the different cities from operations on the same plan become comparable and of greater practical utility.

The spread of typhoid fever through the pollution of interstate waters, particularly the Great Lakes, is an important sanitary problem, requiring Congressional legislation. The Service is represented by one of its officers on the Lake

Michigan Water Pollution Commission, and its advice and assistance requested by the Niagara Frontier Pure Water Conference.

TUBERCULOSIS

The Service was adequately represented in the Sixth International Congress on Tuberculosis, at Washington, September 28 to October 5, 1908, both in the administrative and scientific work, and the exhibit.

In the laboratory the presence of the tubercle bacillus in the market milk of Washington has been demonstrated, and its thermal death point determined (60° C. for 20 minutes). Experiments to determine whether the bacillus can be recovered from the blood of affected persons have given negative results. These studies are reported in Bulletin No. 57.

Under executive order of February 26, 1906, departmental employees have been examined for tuberculosis and certificates given.

The Service has given advisory support to the Colored Anti-Tuberculosis League, established, at the suggestion of one of its officers, by the colored people of the South. A working plan, together with the constitution and by-laws and form of membership certificate, has been published in the Public Health Reports, and the movement, which now embraces seven Southern States, promises good results.

At Fort Stanton, New Mexico, where the Service has a sanatorium for the treatment of tuberculosis cases, with a reservation of 46 square miles, 399 patients have been cared for during the year.

While, of course, it is known that the outdoor treatment anywhere is efficacious, still the climate and the altitude and dryness of air at Fort Stanton render it particularly available for the care of these cases. But there is more than a mere care of cases in the sanatorium idea. The patients in this institution come from the merchant marine of the United States, and by being sent to Fort Stanton are removed from the forecabin, boarding-houses and hospitals, where they would undoubtedly afflict others.

While great care is exercised in stating that patients are positively cured, we have had undoubtful evidence to that effect, as illustrated by the following: Some time ago two patients who had been discharged as absolutely cured from Fort Stanton were admitted, one in the Marine Hospital at Boston, and the other at the Marine Hospital at Chicago, for diseases entirely distinct from tuberculosis, and from which they died. The medical officers knowing that

they had been discharged as absolutely cured of tuberculosis were careful in the post-mortem examinations, and found that there was absolutely no active pathological condition in the lungs. The healing had been complete.

RABIES

An investigation has been made to determine the prevalence of rabies in the United States, and its geographical distribution.

During the calendar year 1908 there were 111 deaths from this disease and 534 infected localities, as shown by reports of rabies among animals. The disease prevailed in 36 states and territories and the District of Columbia in the eastern three-fourths of the United States. No cases were reported from the Rocky Mountain and Pacific Coast regions.

During the fiscal year the Pasteur treatment was administered to 130 persons at the Hygienic Laboratory. The "fixed virus" there prepared was furnished from time to time for use in the Canal Zone, and was sent to the health officers of several states. A bulletin on rabies, giving the results of these investigations and operations, has been published.

PELLAGRA

Pellagra, a disease which has prevailed in certain parts of Europe for more than a century, has recently been reported from various parts of the country, notably the Southern States. Its apparent increase and severity and its suspected relationship to diseased corn, make it a matter of great concern and economic importance.

A year and a half ago, recognizing that this disease was to become one of national importance, a special officer was detailed for this investigation, giving his whole time to this one disease alone, and four bulletins prepared by him on the subject have been published by the Bureau, and statistical information is being obtained. Within the past month the investigation has been broadened by the appointment, with the approval of the Secretary of the Treasury, of a special commission for the investigation of pellagra, this commission consisting of seven members, five of whom are connected with the Hygienic Laboratory of the Service, and two connected with the large government hospital for the insane, St. Elizabeth's, at Washington. Insanity being a frequent accompaniment of this disease, the superintendent of St. Elizabeth's was appointed on the commission, and also one of his assistants, especially noted as an expert in nerve pathology.

HOOKWORM DISEASE

Four pamphlets upon the subject of hookworm disease have been published, and an officer, who has specially investigated this disease, has been detailed to address several public health and medical associations on the subject.

Failure of requested legislation has prevented a campaign of education in conjunction with the state boards of health, which had been contemplated.

A report on hookworm disease in its relation to child labor, requested by the Secretary of the Department of Commerce and Labor, has recently been completed. This report was prepared by Dr. Ch. Wardell Stiles, Chief of the Division of Zoology, of the Hygienic Laboratory. His conclusions on the subject of child labor in the South are not in harmony with those popularly entertained. He is of the opinion that this subject involves questions which give to it an aspect quite different from that of child labor in the North, and his conclusions can best be summarized by his statement that if he had to choose between placing his own ten-year-old daughter in the spinning-room of a cotton-mill and placing her on the average small tenant farm of the South, he would be obliged in the best interest of the child to send her to the mill. In 1902, when Dr. Stiles pointed out the widespread prevalence of hookworm disease in the South, his views were regarded by some as extreme, but today it is generally admitted that those views were correct, and there are gratifying indications of a popular awakening of public sentiment, which will eventually lead to an improvement in the sanitary conditions.

During the present fiscal year, Dr. Stiles has inspected 26 factories in New England, including 16 cotton-mills and one knitting-mill, but in an examination of the 1,437 cotton-mill hands seen, he has failed to find a single case of that severe type of anemia (known as cotton-mill anemia) which he found in 12.6 per cent of the cotton-mill hands of the South. As the New England mills are using Southern cotton, and as the mill hands are therefore breathing in the same kind of lint as are the Southern cotton-mill hands, these observations give an additional proof of the error of the popular idea that the condition of the latter mill hands is due to the breathing in of lint. Such an array of data are now on hand, not in harmony with the lint theory, that when all facts are published, he believes public opinion on this theory will of necessity undergo a change.

Hookworm disease is entirely due to soil pollution, and in order to awaken popular interest in the subject of soil pollution in connection with the disease, Dr. Stiles, in connection with his other duties, has been given several details to lecture on the subject. In addition he has given twenty-five popular and technical lectures on this subject in five states, and without expense to the Government.

While the eradication of hookworm disease within a state is primarily the duty of its sanitary authorities, nevertheless, on account of the widespread distribution of the disease and its baneful influence on the population of the country as a whole, the Federal Government should co-operate with state authorities, and this co-operation should include especially a widespread campaign of education regarding the measures necessary to prevent the transmission of hookworm disease and treatment of the large number of persons afflicted in different sections of the country.

The gift of a million dollars by Mr. Rockefeller, and the appointment by him of a commission for the purpose of eradicating this disease, is a matter of great import. It should be remarked, too, that Mr. Rockefeller's noble gift is not restricted in its use to the interest upon an endowment, but that it provides for the expenditure for five years of \$200,000 each year.

One of the members of this commission is Dr. Stiles, who has devoted himself so assiduously to this subject, and who is Chief of the Division of Zoology in the Hygienic Laboratory.

LEPROSY

In 1905 Congress appropriated \$100,000 for the erection of a Leprosy Investigation Station on the Island of Molokai in Hawaii. Great difficulty was experienced in erecting the buildings on account of the difficulty in securing labor, caused by the fear of the disease. The investigations, however, were begun in the temporary laboratory in Honolulu. The station at Molokai, some sixty miles distant, is now completed and is about ready for occupancy.

The results obtained thus far in the investigations made at the receiving station in Honolulu are embodied in six reports, which have been published.

The investigations of incipient cases at Honolulu will continue even after the main station at Molokai is opened, as such cases present the best opportunity for the study of early methods of diagnosis and means of relief. Studies are being made of the pathological anatomy of the nasal cavity in leprosy; treatment of incipient

cases of leprosy with tuberculin, atoxyol, strychnine, chaulmoogra oil and cinimate of soda: examination of the urine of lepers for acid-fast bacilli; and attempts to grow the lepra bacillus on several media.

On the other hand, experiments on animals and such other work as requires large amounts of leprosy material can best be carried on at the station on Molokai, where the Service has full control of the patients under its care. Both lines of investigation are of importance; each assists the other, and together they form a comprehensive plan that should bring about results for which the investigation was begun.

The many problems that leprosy presents have for convenience been grouped into two classes:

The first class includes four important problems, namely: the growth of the lepra bacillus on artificial media; the successful inoculation of the lower animals; the discovery of a substance analogous to tuberculin, of use as a remedial or diagnostic agent; the discovery of the usual mechanism whereby the infection spreads from one person to another.

In the second class are included lesser problems that step by step add to our knowledge of the disease, and while not apparently of so great immediate importance, yet may indicate the path that leads to the solution of the greater problems mentioned.

The investigations inaugurated have for their primary object the solution of the greater problems mentioned, but it is realized that scientists in many lands have sought in vain for their solution, and years may elapse before success is attained.

If, however, efforts were thus confined, the station might continue its work for years without obtaining results worthy of publication, and the greatest utility to the sanitary and scientific world would not be subserved. Every effort will, therefore, be made to throw all possible light on different phases of the leprosy problem, and it is expected that results will be obtained from time to time that permit of positive opinions and announcements.

With a well-equipped station and laboratory, an abundance of clinical material, and a well-trained corps of scientific workers, it is reasonable to expect that interesting and useful knowledge bearing on leprosy will be obtained.

The Service was represented by the Director of this Station at the Second International Congress against Leprosy, held in Bergen, Norway,

August 16-19, 1909, and his report has been published.

YELLOW FEVER

There has been no yellow fever in the United States, and a marked absence of this disease during the active quarantine season of 1909 in Cuban, Mexican, West Indian and Central and South American ports. This great improvement in the yellow fever situation is attributed to the greater attention being paid to sanitation.

Two years ago in the City of Mexico at the International Sanitary Convention of American Republics, Doctor Liceaga, the distinguished President of the Superior Board of Health, made the astonishing claim that they had eliminated yellow fever from the Republic of Mexico. It made somewhat of a sensation, and of course something akin to a small interrogation point arose in the minds of some of us, but we listened with respect, for we knew what they had done; and I want to say that since that date, and especially during last summer, the results have really justified that statement. When you think that only a few years ago Vera Cruz was one of the worst infected ports on the western continent; that it was a constant menace to the United States; and that now, through the scientific and sanitary efforts of the Mexican Government, inaugurated by Doctor Liceaga and backed up by President Diaz, it is free from that infection, I think you will all agree that the present status is a remarkable evidence of the intelligence and energy of our southern neighbors.

Not only did Doctor Liceaga say that he felt they had eliminated yellow fever from the Mexican Republic, but he said that the forces which they had been using to that end are now used against malaria, and that they expected to eliminate malaria from the Mexican Republic. Gentlemen, that is not only a work, an ambition, and an expectation that is worthy of commendation, but it is something that should stimulate us. I believe they have given more attention to the destruction of the mosquito and the elimination of malaria and yellow fever than we have in this country, and we really can listen to them in this respect. The past year has been one comparatively free from yellow fever in other countries as well, but it is due, I believe, to the increased attention that is being paid to sanitation all along the Spanish Main and the South and Central American Republics. Yellow fever is practically eliminated from Rio Janeiro. This is not a haphazard result, but is due to sanitary measures. Of course, we know about Cuba and

the Canal Zone, and without doubt the honest and effective work in these two countries has had a marked effect by example. Then, too, the presence of medical officers of the Public Health Service, detailed in some eight or ten of the fruit-ports in Central and South America, to make sure that the ships shall be free from infection before leaving, has had a sanitary influence on these Republics.

Whether all who are here feel a special interest in the matter of yellow fever or not, it is a cause for congratulation that a disease which used to sweep over this country, and infected constantly all our neighbors, appears now to be practically wiped out. Of course, one swallow does not make a summer, and one or two summers of freedom from general infection is not enough to make us rest content, but still it is very encouraging, and it looks very much as though we had conquered in this western hemisphere the disease called yellow fever.

CHOLERA

Cholera being prevalent in Russia, an officer was detailed in the office of the United States Consul at Libau, which is the only port in Russia from which vessels carrying emigrants sail direct for the United States. Cholera was reported in Rotterdam, August 26, 1909, and an officer on duty at Naples was sent to that port to assist the Consul in enforcing the Treasury Regulations. The outbreak, however, was of short duration, the disease being a recent importation from Russia, and terminated about September 11th, there having been thirteen cases and five deaths. In Manila there were 981 cases and 23,094 cases in the provinces of the Philippine Islands.

SMALLPOX

In the United States forty-two states, one territory and the District of Columbia reported 24,657 cases of smallpox, with seventy-five deaths, being 6,543 cases and six deaths less than reported for the fiscal year 1908. During the fiscal year 1902 there were reported 55,857 cases with 1,852 deaths. Since then the number of cases and deaths has gradually diminished.

VACCINE VIRUS AND ANTITOXINS

Twenty-one establishments were licensed by the Department, ten of them being foreign, under the act approved July 1, 1902. Investigations during the year demonstrated the fact that foot and mouth disease may be transmitted to animals through vaccine virus. An outbreak of this disease was traced to the vaccine virus of

two establishments. The license of one firm, which had expired, was not renewed, and the license of the other was suspended until all infected virus had been withdrawn from the market, and the infection eradicated. The infection was due to importation from abroad, and revised regulations were therefore issued which will effectually control the importation of this product, whether intended for sale or for laboratory purposes.

HYGIENIC LABORATORY

The additions to the building, provided by Congress and trebling its capacity, were completed during the year. Nine bulletins, containing the results of scientific investigations, were issued. The total personnel of the Laboratory numbers sixty.

Besides the above, the Laboratory has an Advisory Board, composed of representatives of the three medical services of the Government, and the Bureau of Animal Industry, and five others, representing laboratories devoted to like research. These five members are Professor William T. Sedgwick, of the Massachusetts Institute of Technology; Professor Victor C. Vaughn, of the University of Michigan; Professor Simon Flexner, of the Rockefeller Institute for Medical Research; Professor William H. Welch, of the Johns Hopkins University, and Professor Frank F. Wesbrook, of the University of Minnesota. Through this Advisory Board, the Hygienic Laboratory is kept in touch with investigations in other laboratories, and has advice regarding investigations being made or to be made in the Government institution.

RELATIONS TO THE PHARMACOPEIA

In 1908 the Board of Trustees of the U. S. Pharmacopeia Convention called upon the Bureau to undertake the publication of a series of bulletins embodying digests of comments on the pharmacopeia. This work was begun in the Division of Pharmacology of the Hygienic Laboratory, and the first digest of comments was compiled and published during the fiscal year as Bulletin No. 49 of the Hygienic Laboratory. In beginning the work, it was decided to compile the material chronologically so as to present the available comments in proper sequence. The above-mentioned bulletin, therefore, deals with literature of the latter half of 1905, representing the period from the publication of the Eighth Decennial Revision of the Pharmacopeia to December 31, 1905.

The comments contained in this bulletin are

interesting and indicative of current opinions regarding the future of this work and the development of the Division of Pharmacology. In most foreign countries the pharmacopeia is a Government publication, and its preparation is purely a governmental function. For eighty-five years the pharmacopeia of the United States has been by contrast a wholly private enterprise, compiled, developed and published by members of a voluntary organization, and attaining a legal status only gradually through the enactment of statutes by the several States which recognized its standards.

Through recent national legislation this publication has become the federal standard, and the significance and far-reaching effects of this change of status are shown by the fact that within a year some revision of the pharmacopeia was made necessary. The problem now to be faced by the Government and by the makers of the pharmacopeia is, What shall be the attitude of each to the other with reference to what has been termed "a sanitary institution of the first rank?"

It is gratifying that the work already done by the Government has been welcomed and accepted as evidence that the relation of the Federal Government to the Pharmacopeial Convention is to be that of co-operation without domination.

The first volume of digests, already published, has been accepted by those interested as an expression of governmental interest in a volume of national consequence, and that such interest is second only to the legislative action making it the official standard in this country.

A second digest of comments on the pharmacopeia has been prepared and submitted for publication as Bulletin 58 of the Hygienic Laboratory. This second bulletin covers the literature for the calendar year ended December 31, 1906. This period was one of unusual interest and activity in matters relating to the pharmacopeia of the United States.

The enactment of the Food and Drug Act, June 30, 1906, and the signing, on November 29, 1906, of an agreement by the United States and other powers for the unification of the pharmacopeial formulas for potent drugs make the pharmacopeia legal standards, for the development of which in part at least the Government has incurred treaty obligations.

Since the pharmacopeia of the United States and the National Formulary have become legal standards, the medicaments to be incorporated require careful study and the collection of disin-

terested information. This is necessary, inasmuch as not only powerful financial interests but the maintenance of the public health are involved. In accordance with a resolution adopted by the American Pharmaceutical Association, the second digest of comments that has been prepared relates also to the National Formulary.

Besides the compiling and publication of a series of comments, there is also a great deal of important work to be done in relation to the remedies to be incorporated in the pharmacopeia, and the chairman of the Revision Committee has advocated the carrying on of such work in a government proving-laboratory. The necessary test for the identity and purity of official remedies should be elaborated by workers who are free from the stress of commercial self-interest and competition, and such work can be carried on in the Hygienic Laboratory, where the methods of making official preparations of official drugs and the standardizing of such preparations when so made should also be done.

Much work has been carried on in the Division of Pharmacology in relation to therapeutic remedies. In view of the coming Pharmaceutical Convention, the Chairman of Revision requested that some additional work be undertaken on the determination of melting-points and boiling-points in the pharmacopeia. He pointed out that the melting-point and boiling-point of the various substances contained in the present pharmacopeia had not all been determined by the same method, and that chemists and physicists were not united on the best and simplest means of determining these factors. He stated that there was necessity for uniform method of taking the melting-point and boiling-point, and requested that tests be made, and comparative tables be prepared for use in the next revision of the pharmacopeia. It was decided, with the approval of the Secretary of the Treasury, to undertake this work, and investigations are now in progress for the determination of the physical constants of pharmacopeial substances, which includes boiling-point, melting-point, and solubilities.

The results of investigations into the relation of the iodine content to the physiologic activity of thyroid preparations, the physiological standardization of suprarenal preparations, and such drugs as digitalis, the toxicity of acetanilid mixtures, and the standardization of antitetanic serum, which have been published, will be of value to members of the Pharmaceutical Convention.

Closely related with the work of the Service in connection with the U. S. Pharmacopeia is its co-operation with the American Medical Association in the work of the Council on Pharmacology and Chemistry, four of whose members are government officials, two of them in the Division of Pharmacology. In addition to the routine work carried on in connection with the Council with reference to the general question of new remedies, it has been shown in the Division of Pharmacology that digalen, a preparation of world-wide use, under certain conditions, becomes inert. There has also been demonstrated the variability of the extremely potent suprarenal preparations. Many unofficial drugs which have been used to a greater or lesser extent, some of them official at one time or another, are being studied with a view to determining whether they are of sufficient merit to justify therapeutic use.

SANITARY CONFERENCES AND ADVISORY BOARD

The seventh annual conference of State and Territorial Health Officers with the Public Health and Marine Hospital Service was held in Washington June 2 and 3, 1909. Twenty-six states and territories and the District of Columbia were represented. The discussions illustrated the value of this official organization.

The Advisory Board of the Hygienic Laboratory was convened on March 26, 1909. Investigations conducted in the laboratory were discussed, and the advice of the Board obtained with regard to the continuation of the same and new investigations.

The United States Government has been represented in the International Office of Hygiene at Paris by the detail of Surgeon H. D. Geddings. Dr. Geddings is now stationed at Naples, Italy, supervising the medical inspection of emigrants leaving that port, and signing bills of health. It is so arranged that when occasion demands he can attend the meetings and represent this Government at the International Office of Hygiene in Paris. The Service has also maintained its interest in the International Sanitary Bureau of the American Republics in Washington, and through a resolution passed by each body this Bureau was brought into relations with the Office of Hygiene in Paris.

The twelfth International Congress on Alcoholism was held in London, July 18 to 24, 1909. The Congress was well attended, there being about 1,400 members and practically all civilized countries being officially represented. Among the speakers were members of Parliament, prominent lawyers, including the Lord Chief Justice,

officers of the English navy and army, including the Surgeon-General, railway officials, teachers, clergymen, and others.

Dr. Reid Hunt, Chief of the Division of Pharmacology, in his report of the meeting, states that it seemed to be the consensus of opinion that alcohol in any form is but seldom of distinct value in the treatment of disease, also that some evidence was brought forward to show that alcohol, even in moderate amounts, has an unfavorable effect upon subsequent offspring and a tendency to lower resistance to infection. The dangers of alcohol to those with any tendency to nervous or mental disease was especially emphasized, as were also the effects upon children.

Statistics were presented showing that there has been a marked decrease in the use of alcohol in hospitals. The statement was also made that the only pharmacopeias which included whiskey were those of the United States and Greece, and it was suggested that its recognition in this way gave it an undue prominence as a medicinal agent.

Another point brought out was the extraordinary growth of total abstinence in the British army and navy. Forty per cent of the army in India are said to be total abstainers. The Surgeon-General of the British army attributes this growth of total abstinence to the improvements that have been made in the housing and feeding of the soldiers.

The congress was held under the auspices of the British Government. The next meeting will be at the Hague in 1911.

NATIONAL QUARANTINE

At the forty-four quarantine stations in the continental United States, 8,266 vessels were inspected, of which 520 were disinfected. Inspection has been maintained on the Mexican border.

National quarantine has been administered at seven ports in the Philippine Islands, seven in Hawaii, and eight in Porto Rico.

Medical officers have been stationed at eight fruit-ports in Central America to enforce special regulations relating to fruit-vessels to permit their entry into the United States without detention.

Details have also been made to ports in Cuba, Mexico, Barbadoes and St. Thomas, to Rio de Janeiro, Callao, Guayaquil, Naples, Calcutta, and to two ports in China, and three in Japan. The officers have exercised quarantine supervision over vessels bound for the United States, and

at a number of foreign ports have examined aliens by request of the Immigration Bureau and steamship companies. By request of the Venezuelan authorities, on account of the bubonic plague, an officer was detailed for duty at La Guaira; one also for immigration and quarantine service at Amoy, China, by request of the United States Consul, with special reference to the protection of the Philippines..

In view of the establishment of a new line of steamers, plying from Salina Cruz and Manzanillo, on the Mexican-Pacific Coast, direct to Honolulu, officers were appointed for the disinfection of vessels at the two Mexican ports named to prevent the introduction of yellow fever into the Hawaiian Islands, where this disease is at present unknown, but where the conditions are ripe for its spread should it be introduced.

MEDICAL INSPECTION OF IMMIGRANTS

During the fiscal year 966,124 immigrants were inspected under the immigration laws and regulations, and 14,536 were certified for rejection on account of physical and mental defects. The inspections were conducted at fifty-eight stations in the continental United States, Canada, Porto Rico, and Hawaii, but do not include the examinations in the Philippines or at foreign ports. Personal examinations were made of 965 aliens reported as public charges in various institutions throughout the United States to ascertain whether they should be deported under the immigration laws.

Service officers have also, under the supervision of the Commissioner General of Immigration, conducted the large hospital for immigrants at Ellis Island, where 6,186 patients were admitted for treatment.

SERVICE PUBLICATIONS

During the year 246,060 copies of the various publications edited in the Bureau were distributed. These include the Annual Report, the Weekly Public Health Reports, the Bulletins of the Hygienic Laboratory, and various special bulletins relating to the public health. A new edition of the bulletin entitled, "Milk and Its Relation to the Public Health," has been published.

MARINE HOSPITALS AND RELIEF

In the twenty-one marine hospitals owned by the Government, and at the 126 other stations, where seamen of the merchant marine receive hospital and dispensary treatment, there were treated during the fiscal year 53,074 patients, of which number 14,209 were treated in hospital,

and 38,865 at the dispensaries. The new marine hospital at Buffalo, N. Y., has been completed, and is occupied.

Physical examinations, exclusive of immigrants, were made of 4,980 persons connected with the Revenue Cutter, Life-Saving, Steamboat Inspection, Immigration and Light House Services, the Coast and Geodetic Survey, Civil Service Commission, Isthmian Canal Commission, and Philippine Service.

PERSONNEL

At the close of the fiscal year there were 128 commissioned Medical Officers, namely: The Surgeon-General, five Assistant Surgeons-General, 35 Surgeons, 66 Passed Assistant Surgeons, and 21 Assistant Surgeons.

There were also 279 Acting Assistant Surgeons, a total of 407 medical officers.

There were also 45 pharmacists.

Commissioned medical officers have served on special duty during the year as follows: Three have served with the Isthmian Canal Commission, respectively as director of hospitals, chief quarantine officer and in charge of the quarantine at Panama, and quarantine officer at Colon.

Two officers have been continued as chief quarantine officer and director of health, and as assistant director of health, of the Philippine Islands, respectively.

One officer, under the Act of February 15, 1893, has been continued for duty at Guayaquil, Ecuador.

Fourteen officers are assigned to exclusive immigration duty for the physical and mental examination of aliens, their services being supplemented by employment of acting assistant surgeons.

Six officers are detailed to the quarantine service of the Philippine Islands.

Seven officers are detailed for service upon vessels of the Revenue Cutter Service.

Twenty-three officers are detailed at the several quarantine stations in the continental United States, in Porto Rico, and the Hawaiian Islands.

One surgeon, four passed assistant surgeons, and one assistant surgeon, are assigned to duty in foreign countries to prevent the introduction into the United States of epidemic disease.

One commissioned officer detailed in the office of the United States Consul at Guayaquil, Ecuador, died of yellow fever while in the performance of his duty.

CONCLUSION

I have thus endeavored to give you an idea of the scope and character of the work of the Public Health and Marine Hospital Service. My subject does not call for any comment upon the public health system or organizations of the United States, nor would there be time to discuss the same, but I wish to impress one thought upon you, and that is that in the division of public health work in the United States—National, State, municipal, and county—the relative importance of the work of the county health officers and the local physicians cannot be overestimated. You gentlemen are the ones who are familiar with the local conditions which aid in

the propagation of disease. You are the first ones to become acquainted with the existence of contagious or infectious disease. You are therefore the first units in the nation's sanitary organization.

The large attendance at this meeting, the papers read, and the interest exhibited in the discussion—all give evidence of the vitality of your Association. Doctor Bracken, the Executive Officer of your State Board of Health, attends the Annual Conference of the State Boards with the Public Health and Marine Hospital Service, and through him and Doctor Westbrook, we have become acquainted with your energy and excellent organization. I trust that your work will continue to be increasingly successful.

RIGHT INGUINAL HERNIA AND CONCURRENT APPENDICITIS,—A PERSONAL EXPERIENCE OF SEVENTY-SIX CASES*

By WALTER COURTNEY, M. D.

BRAINERD, MINN.

Prior to 1904, in operating for the radical cure of right inguinal hernia, I had frequently observed adhesions, more or less numerous and dense, attaching the cecum to the mouth of the sac, while occasionally an appendix would present or be found within this peritoneal diverticulum. From these observations, and the not infrequent necessity for post-herniotomy appendicectomies, the idea arose of utilizing the opportunity afforded by each herniotomy for a systematic exploration of the appendix. Since that time it has been our constant practice to examine the appendix through the internal ring, regardless of the previous history, when operating on right inguinal hernia. The striking result has been that the organ is found diseased in the great majority of all our cases.

Our clinical histories are taken, and operative findings and procedures recorded, by our hospital internes. These men come and go annually, and the work done by them varies in consequence, with the result that all facts are not as clearly recorded as they should be. For this reason I am unable to give the exact proportion of diseased appendices found to the whole number examined. We have, however, definite records of seventy-six appendicectomies for dis-

eased appendices, in connection with radical cure operations on right inguinal hernia.

I am unaware to what extent others may be doing exactly the same work. Recent literature affords reports of appendiceal hernia (appendix within the inguinal hernial sac), and appendicectomies by the Torek method in cases with a previous history of appendicitis, but nowhere have I found any record of systematic examination of the appendix through the internal inguinal ring. I make no claim that search has been exhaustive, for it has not.

The frequency with which right inguinal hernia predominates over that of the left side has never been satisfactorily explained; neither has the relation of cause and effect, as between appendicitis and right inguinal hernia, received all the attention to which it may be entitled. Careful statistics have shown that inguinal hernia occurs most frequently between the ages of fifteen and fifty years. This period of life also furnishes the largest number of cases of appendicitis. Treves has shown that the cecum normally lies at, or near, the right inguinal ring. Concurrent appendicitis may yet afford a better answer to the question, "Why do inguinal ruptures of the right side so greatly exceed those of the left?" than any hitherto offered.

The operative technic of exploring and removing the appendix, through the internal ring, in

*Read at the 41st annual meeting of the Minnesota State Medical Association, held at Winona, Oct. 14 and 15, 1909.

the course of a herniotomy is not difficult in the majority of cases. The fact that the cecum, normally, lies at, or near, the right inguinal ring makes it easy, in such cases, for an educated finger to find and withdraw the appendix. When it cannot be found in this manner, a narrow retractor may be inserted, and the anterior abdominal wall lifted, thus permitting a view within the cavity. Obstructing omentum or ileum may be pushed aside when the blue or grey cecum can be differentiated from the red-colored ileum, and withdrawn by means of rubber-tipped forceps.

There is not an inconsiderable number of cases, however, where difficulty is experienced in delivering the appendix. All abdominal surgeons are aware of the varying positions of a diseased appendix. It may be firmly fixed in a high-lying upward or markedly inward position, by dense adhesions, a contracted or obliterated meso-appendix. Even in such cases the cecum, usually, can be brought within easy working distance by patient gentleness; and also the adjoined ileum. Thus the appendiceal angle, the junction point of the cecum and the ileum, may be brought into view, and with it the appendix itself.

In such cases it is of the utmost importance to guard against post-operative hemorrhage, by careful ligation of the appendicular artery and equally careful attention to rents in the mesentery, or proximal peritoneum. We should here, as always, bear in mind the possibility of leakage from the appendiceal stump and guard against it. In not a single instance where we have performed appendicectomy through the internal ring, in conjunction with herniotomy, have we had any post-operative complications on that account.

In some instances, where the appendix cannot be brought within working distance, the Torek method may offer an easy and safe solution of the difficulty. This, in brief, would mean an extension of the skin incision and splitting of the fascia of the external oblique muscle, as high as the anterior superior spine of the ilium; then doing appendicectomy above the internal ring, by the usual muscle-splitting method, and completing the herniotomy below.

Our experience has shown that this will seldom be necessary. In one case, only, during several years, have I been compelled to go above the internal ring to explore and remove the appendix. I think it cannot be gainsaid, other things being equal, that one opening or opera-

tion through the abdominal wall is preferable to two.

It is not an uncommon thing for right inguinal hernia cases to complain of pain in the lower abdomen. The question that naturally arises is, "Can a rupture of considerable standing be held accountable?" Beyond occasional dragging sensations and some discomfort there should rarely be any actual pain in a case of uncomplicated hernia. In such instances, particularly, the appendix should not be above suspicion.

I was recently asked the question by a medical gentleman, "Will not the distension of the internal ring, by the operative procedures through it, tend to lessen the chances of a radical cure?" My answer then and now is that our experience has not shown, in any sense, that such is the case.

Our experience has steadily forced the belief that the work outlined above is of sufficient importance to warrant its continuance at our hands.

DISCUSSION

DR. ARCHIBALD MACLAREN (St. Paul): This very interesting paper of Dr. Courtney's is very much to the point. For several years past many surgical men have been led into the same method of procedure, probably for the same reason as Dr. Courtney has given us. My first experience along this line was much the same. I found, in a strangulated hernia, a gangrenous appendix in the hernial sac, and the appendix was just at the point of perforating. In ordinary hernias, almost without exception, it has been my practice of late to remove the appendix, and I think it is a wise thing to remove it, because we so often find that the reason why the patient has commenced to worry about his right-sided hernia was because of true inflammatory conditions about the appendix.

I have had to make the cross-muscle incision dividing the interior oblique at the upper end of the external oblique incision more often than Dr. Courtney has, and that is perhaps because I have not followed exactly his line. I am sure that one incision is much better than two separate ones, but if there is any difficulty in reaching the cecum, where there is too much strain put upon the bowel, and the work cannot be done properly through one opening, there ought to be two separate incisions.

DR. ARTHUR T. MANN (Minneapolis): This subject brings up quite an important point, and that is as to the obscure cases of appendicitis, which often go without a proper diagnosis. I have been watching this carefully, and two years ago I wrote a paper in which I discussed three classes of appendicitis cases in which a mistake in diagnosis is often made. This paper brings up one of the three classes, and that is those cases of chronic and subacute appendicitis whose symptoms are mainly those of indigestion, and which sail under the diagnosis of gastric or intestinal indigestion until some rather severe exacerbation may call direct attention to

the sore appendix. In some of these cases there are only a few symptoms,—indigestion following meals, and repeated attacks which do not come from any known cause, which improve for periods of time without any apparent reason. Often there is a sense of "fullness" or a little dragging in the lower right side of the abdomen.

In these cases, instead of making a diagnosis of chronic indigestion, the doctor should find out whether the appendix region is tender. If the patient notices a little sense of fullness on this side, especially after exertion, then a definite examination of the appendix should be made, and if the appendix is tender you have a case of chronic appendicitis, with or without a sub-acute exacerbation, which may not have given enough symptoms up to that point to call attention to the correct diagnosis. Such an appendix may not have an acute attack, but it is a damaged appendix and liable to an acute attack at any time, and it should be removed.

When these cases come in conjunction with hernia on the right side, the appendix may be removed through the incision for the hernia.

DR. F. A. DUNSMOOR (Minneapolis): The question of examining every case of hernia for appendicitis has never been my practice when operating for hernia, unless there has been a history of previous attacks of appendicitis. If the appendix is adhered to the omentum, and it is within the sac itself, the appendix will be removed; or if there is a history of recurring

appendicitis, even of short duration, the sac is opened and the appendix removed through it and the hernia cured in the usual way.

DR. R. C. DUGAN (Eyota): As usual, when Dr. Courtney speaks, we either learn something new or are reminded that there are new things to learn.

I have several times seen the appendix present in the hernial sac, and now make it a rule to obtain permission for its removal in all cases of right inguinal hernia. Indeed, I am firmly convinced that we should get such permission in every case where the abdomen is opened. I can see no reason for leaving an organ so manifestly useless and so notoriously dangerous when it is possible to remove it.

I shall follow in the future Dr. Courtney's plan as far as possible, believing that the slight stretching of the internal ring necessary for the same, instead of being a menace to success, will be a benefit. I have several times purposely cut the upper edge of the internal ring when the ring was round and indurated.

In this connection, I wish to call attention to several cases that have complained of sudden pain in the right side following a strain that simulated appendicitis very closely; but on passing the finger through the external ring a bulging at the inner ring could be felt. These cases are frequently cured by wearing a truss for a short time, and they are the only cases of hernia for which I ever prescribe a truss.

THE STERILIZATION OF HABITUAL CRIMINALS AND DEGENERATES*

BY BURNSIDE FOSTER, M. D.

ST. PAUL, MINN.

It is not my intention in this brief paper to discuss in detail the subject of the heredity of acquired traits. This subject has for years been discussed, from every point of view, by physicians, philosophers, and moralists; and while there is still much difference of opinion as to how much the individual, in his mental, moral, and even his physical characteristics, is indebted to his heredity and how much to his early environment, it will, I think, be generally admitted that a very large percentage of the habitual criminals, the degenerates, and the sexual perverts in all communities are the offspring of parents of the same kind as themselves, and that their children will, in all probability, be tainted in like manner. How much of this is due to heredity and how much to early environment it is not necessary for my present purpose to discuss, because under the social conditions of today both influences must continue to

be felt, and the children of criminals, prostitutes, and perverts will, for the most part, grow up in the atmosphere which surrounds their parents. There is, then, in every community a large class of individuals who are unfitted by reason of either physical disease or moral delinquency to marry and beget children. This has long been recognized by physicians and scientists, and the question of the restriction of procreation has been often discussed, and from various points of view.

It may be broadly stated that no man or woman who is afflicted with either a communicable or an inheritable disease should marry or should have sexual relations, whether married or not. How far the State can go in the restriction of marriage and in the restriction of procreation is a very difficult question to answer. There are those who do not believe that the State has any right to interfere with personal liberty in these matters, and there are those who go to the other extreme and believe that the State should have

*Read at the 41st annual meeting of the Minnesota State Medical Association, held at Winona, Oct. 14 and 15, 1909.

the right to say in every case, as the results of careful physical examination, whether individuals may be permitted to marry or not; and there are all kinds of opinions and views between these two extremes. I do not believe that the State should regard its citizens as the stock-breeder regards his stock, and pick out for breeders only the finest specimens, although there is no doubt but that if this were done there would result a race of human beings stronger physically than any race the world has ever seen; what this race would be intellectually is extremely problematical. Laws prohibiting marriage without a license based upon physical examination would be impossible of enforcement unless they were uniform in all states and countries, but laws prohibiting marriage and preventing procreation under certain specific conditions can be enforced, and they are, I believe, wise, just, and scientific. The large class embraced under the comprehensive term "degenerates," which includes the chronic insane, the imbecile, the epileptic, the confirmed inebriate, the sexual pervert, and the habitual criminal, are sure to beget and procreate their kind, and since this class is rapidly increasing in all countries we are sure to pass on the curse to future generations unless some radical means are taken to prevent it.

The majority of the individuals of the degenerate class become, sooner or later, inmates of state institutions, either hospitals for the insane or prisons, and while some of them are cured and returned to a healthy and normal existence, most of them are hopeless cases, and while they may be discharged from the institutions they are sure to become state charges again, sooner or later. While it may be safe to give them this freedom, at least for a time, they should not be permitted to procreate and become the parents of degenerates of their own kind, as they are sure to do unless prevented. While, at least under present conditions, the State cannot apprehend and take charge of those degenerates in the community who have committed no crime and whose parents or guardians have not requested the State to care for them, I believe that it has the right to take those who have been legally committed to its charge and under proper restriction so deal with them that they may no longer be a menace either to society of today or to future generations.

This view has prevailed with the legislature of Indiana, which, some years ago, enacted a law whereby every institution in the state, entrusted with the care of confirmed criminals, idi-

ots, rapists, and imbeciles, may, after consultation with a board of physicians, appointed for that purpose, authorize, and have performed in cases where it seems proper, such operation for the prevention of procreation as shall be deemed safest and most effective. The text of the Indiana law is as follows:

"Whereas, Heredity plays a most important part in the transmission of crime, idocy, and imbecility, therefore, be it enacted, that on and after the passage of this act it shall be compulsory for each and every institution in the state, entrusted with the care of confirmed criminals, idiots, rapists, and imbeciles, to appoint upon its staff, in addition to the regular institutional physicians, two skilled surgeons of recognized ability, whose duty it shall be to examine the mental and physical condition of such inmates as are recommended by the institutional physician and board of managers. If, in the judgment of this committee of experts and the board of managers, procreation is inadvisable and there is no probability of the mental improvement of such inmates, it shall be lawful for the surgeons to perform such operation for the prevention of procreation as shall be deemed safest and most effective."

The operation selected was the simple one of double vasectomy, which may be performed under local anesthesia. During the first year following the passage of this law, 412 persons were operated upon in the Reformatory at Jeffersonville, Indiana, without an accident, and not a single one of the prisoners was even prevented for an hour from carrying on his usual prison occupation. Dr. H. C. Sharp, the institutional surgeon who performed the operations, says in regard to them: "I have never seen any unfavorable symptoms. There is no atrophy, no cystic degeneration, and no disturbed mental or nervous condition following vasectomy; on the contrary the patient becomes of a more sunny disposition, brighter of intellect, ceases bad practices, and advises his fellows to submit to the operation for their comfort and good."

In institutional work there will always be some cases which will be recognized by all as hopeless, so far as recovery is concerned, and in which the advisability of destroying the power of procreation will not be questioned. There will be other cases in which there is a reasonable doubt as to the advisability of the operation, and such cases should be given the benefit of the doubt.

The responsibility of the commission which

passes on these cases is a very grave one, and the weak spot in the law lies in the fact that mistakes will undoubtedly be made sometimes, and persons believed to be incurable after having had their power of procreation destroyed may recover and find themselves normal in all respects save the loss of that function which properly exercised is the highest and most important of human functions. Such cases will be very rare under a wise and careful administration of the law, and in spite of the possibility of their occurrence I still believe that this generation owes it to the next to take every precaution to prevent the handing down of types of degeneracy.

Sterilization of criminals has thus far been applied only to male offenders, although the Indiana law permits of its application to woman as well. Ligation and section of the Fallopian tubes would be as effectual in the female as vasectomy in the male, but of course the operation is a little more dangerous, and if performed upon a large number of women there would probably be a small percentage of accidents. There are many female criminals and degenerates who might properly be submitted to the operation, and, as is well known, there are many women in private life who desire to escape maternity who have voluntarily submitted to it. I do not think that any reputable surgeon would deliberately sterilize a woman, except perhaps in those rare cases where pregnancy would jeopardize the woman's life, but that the operation is occasionally performed where no such condition exists is well known. Another and much simpler method of sterilization which I have not seen alluded to in this particular connection, may be available in the near future. I refer to the *x*-rays. It has been shown in recent years that animals, both male and female, which were being experimented upon for various purposes, with the *x*-rays, have been sterilized, and that under the influence of the *x*-rays the development of the spermatozoa in the male and of the ovum in the female has been inhibited. It has been observed that usually this sterilization has been temporary and that the animals regained their powers of reproduction later. Similar observations have been made in human beings and quite a number of *x*-ray operators who have been exposed daily for many months to the *x*-rays in varying quantities have found by investigation that they themselves could produce no spermatozoa. Just what the *x*-ray does to the testis or to the ovary is not known, and since

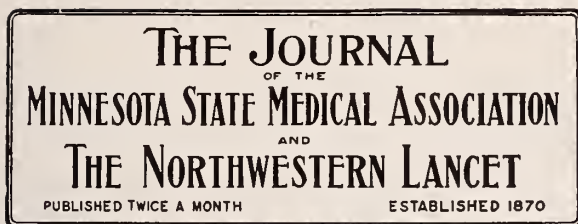
at present the technic of *x*-ray work is not perfect enough to enable us to administer it in measured doses, and to know just what dose will produce certain effects, the *x*-ray method of sterilization is uncertain and of course unscientific. I mention it as among the possibilities of the future.

Mutilating operations upon both the male and female sexual organs have been performed from the very earliest days of history for various purposes. For a brief account of these operations and the methods of performing them I would refer to an article written by me and published in *THE NORTHWESTERN LANCET*, December 15, 1897. These operations were unscientific and brutal and with the exception of the operation of circumcision have become practically obsolete among civilized people. The modern operation of vasectomy, which cannot be called a mutilating operation, seems to me to be entitled to very serious consideration in the treatment of criminals and others who, for the protection of future generations, should be prevented from perpetuating their kind.

This paper has been prepared at the request of the President of this Association for the purpose of suggesting that the Minnesota State Medical Association take definite steps towards bringing this subject before the next legislature with a view of having enacted a law which shall authorize the adoption in the State of Minnesota of a scientific method for the prevention of crime in future generations.

A LITTLE ABDOMINAL SURGERY BY THE FAMILY PHYSICIAN

Wm. H. Dukeman, of Los Angeles, Cal., gives a summary of fifty cases of abdominal operations done by him. Two of them were done in private houses; the remainder in the hospital. He reports these cases to show how much may be done with simple means by the family physician, without resort to the surgeon. The cases include six hysterectomies, sixteen abdominal sections, twenty-six appendectomies, and two herniotomies. All but three patients are living and well. The author gives summaries of these cases. His successes are attributed to making a careful diagnosis and then undertaking operation, after satisfying the patient calmly that this is the best thing to do. Success is contributed to by perfect asepsis, a good nurse, and careful handling of all parts.—*Medical Record*, June 5, 1909.



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INDIAN MEDICINE

We say that "the proper study of mankind is man," but we are prone to forget that our savage ancestors and brothers are as much included as are ourselves and our next door neighbors; and yet a little knowledge of the ways of the uncivilized will often throw light on some otherwise unexplainable traits of the civilized. After reading of some of the medical beliefs and customs of our Indians ("Physiological and Medical Observations among the Indians of Southwestern United States and Northern Mexico," by Ales Hrdlicka") we have felt much inclined to paraphrase and say that "one touch of illness makes the whole world kin." The primitive type of mind, whether in savage or civilized man, incapable of reason or careful investigation, attributes everything in the way of sickness or misfortune largely to supernatural agencies, and looks to someone whom he is pleased to consider more gifted than himself to remove the mysterious affliction by mysterious means. Every physician knows of certain patients in certain cults who, far from seeking reasonable physical

explanations of disease, scout these and search for a healer who will deal in mysterious terms and formulas and claim occult powers of healing. In short, such people desire a medicine-man, and not a physician. The Indian medicine-man is usually rather advanced in years, and is shrewd and knowing. As will be seen, he is not unlearned in certain medical and surgical lines, but he is too clever to lay much stress on these. The medicine-man is, for the most part, born, not made. Occasionally, however, he receives his power in a vision. Woe to him who claims to be able to cure and fails to make good; after a series of failures he is summarily despatched. The Indian probably does not apply to the medicine-man for the cure of diseases whose cause he knows. The medicine-man is too expensive a luxury to be called on frequently. But when, like a bolt from the blue, there comes an attack of pneumonia or acute contagious disease his experience and knowledge furnish him with no explanation and so he attributes his affliction to the action of some offended spirit or deity, man or animal, and must needs summon to his aid some one wiser than he to conquer this powerful antagonist. Here the sage old medicine man is called. "The treatment varies according to the supposed necessities of the case, consisting of propitiation for broken tabus, repeated prayers to the elements or deities, the deposit of prayer-stocks or counter-charms in shrines, appeal to the patient's personal protector or totem, the use of especially effectual songs, rubbing or kneading (sometimes quite violent, though employed more commonly for supposed magic effects), rubbing liquid medicine into the skin, extraction of the objective cause of the disease, blowing air or tobacco smoke on the patient, passes with fingers moistened with saliva, ceremonial observances and rites, including painting the body of the patient, as well as that of the medicine-man, and making sand paintings, noises (made with voices, rattle, or drum), commands and exhortations to drive away bad spirits, assurances given the patient, various symbolic representations, purification of the body by sweat-baths, purging and emesis, strong sucking, cauterizing, scarifying, bleeding, external applications, the administration, externally or internally, of secret, magic, or other medicine, and various regulations of the behaviour of the patient. In the larger curative ceremonies several medicine-men act conjointly, or, if but one

is present, he may have from one to several assistants.

"The extraction of the material agent of the disease, by means of the hand or by strong sucking with the mouth, is sometimes performed symbolically, but more frequently the object is assumed to be actually removed. It may be a thorn, a piece of coal, a hair, an insect, a worm, or other substance suggesting by its appearance or nature the symptoms of the disease. It is usually exultingly shown, and then destroyed."

"The medicine-man sometimes calls in or refers the patient to other practitioners, specialists in the particular line of affections under treatment, this course being adopted probably as a means of avoiding the responsibility of a hopeless case." Such reprehensible conduct as this is of course restricted to savages.

Nevertheless, there must have arisen from time to time in some of these tribes Laennecs and Oslers, for we find occasionally surprising scraps of knowledge of the healing art among them. Thus, according to Hrdlicka, they employ, to some extent, as curative measures sweating, bandaging, splints, scarification, cauterizing, rubbing, kneading, pressure, clyster, and vesication, in addition to using various parts of plants in the form of decoctions, infusions, or salves. One tribe, the Mescaleros, would seem to be especially enlightened along these lines. It is said, for instance, that they clearly understand that consumption is contagious, though its nature and mode of transmission are mysteries. For pains in the chest this same tribe draws a tight band about the chest. They have a definite treatment for rheumatism, which consists in giving the patient a good sweat over a tub of hot water. The joints are rubbed with a decoction of herbs in addition, and the treatment is said to be very efficacious. Something of more general interest, however, is their employment of a plant called "snake-medicine" for snake bites. The author saw this root chewed up and applied to a rattlesnake bite some hours after its infliction with the result that the pain and swelling subsided, and, after another application, the injured member appeared quite well and the patient went about his work as usual. To stop bleeding this tribe apply a spider-web or scraping from inside of a tanned buckskin. In nose-bleed they wash the head in cold water. Most of the tribes, however, continue to rely on songs and incantations and fetishes, and

who, in this day of malicious animal magnetism, shall say they are wrong?

INSPECTION OF MEAT AND MILK

Dr. Melvin, chief of the United States Bureau of Animal Industry, in his annual report to the Secretary of Agriculture, says that half of the meat eaten in the United States is uninspected. More than 36,000,000 animals were inspected at the time of slaughter during the fiscal year just closed, and more than 1,000,000 were condemned, in whole or in part. On re-inspection more than 25,000,000 pounds of meat and meat products were condemned which had become unwholesome since inspection at the time of slaughter.

Government inspection is inefficient unless supplemented by state and municipal inspection. Under the present conditions the government has no authority to reach business done entirely within the state. The result is that much of the meat consumed in the smaller cities is of uncertain quality, and if the truth were known about the methods and place of slaughter there would be less meat consumed. Occasionally a small municipality wakes up to the fact that the local slaughter-house is wholly unfit for the proper killing of animals.

In one of the small towns in Minnesota the women became interested in the local slaughter-houses, and after inspecting the surroundings and noting the vile odors that arose through gross negligence and filth, they made complaint, and the nuisance was abolished. In many other towns in the state the conditions are equally bad or worse, and many complaints have been filed with the local health authorities. Some of the slaughter-houses are surrounded by the accumulated filth of years, and no effort is made to remedy it until some one can endure the outrage no longer. In many instances the buildings in which slaughtering takes place are seldom renovated; some have no running water; and in others the floors and walls are never cleaned. In one township slaughtering was done under trees, and the offal was left to decay or to be removed by roving animals. A few of these objectionable houses have been closed and others have been ordered cleaned and remodelled, but with the usual result,—a return to former untidiness.

The only way a municipality can protect its residents is to establish a municipal slaughter-house, or to control the one already in existence.

The local board of health can, if it will, keep its slaughter-house in fairly decent order.

No one can estimate the amount of diseased meat that is sold in open market. The testing of cattle for tuberculosis has shown that a large number of animals are diseased, and it has been nearly impossible to keep such meat from being sold. It is comparatively easy for the killer to detect and remove diseased organs, but in many instances only a trained inspector can detect the presence of diseased tissue.

It is appalling to think of the possibilities that may arise from the sale of bad meats. Ptomaine poisoning from spoiled meat is not infrequent, and no man can say how many cases of tuberculosis have been transmitted from animal to man by the ingestion of tuberculous meat.

The same conditions apply to the consumption of milk. Inspection in the rural districts is impossible under our present laws and dirty and diseased milk is common. The larger cities which get their food supplies from inspected houses are comparatively safe. The packing-houses are usually models in construction and all possible sanitary methods are employed to keep meats wholesome and clean.

Inspection by the government is fairly reliable and meats sent out from such establishments are safe. The inspection of milk and its sources of supply in the large cities is now approaching a more ideal state, but there is yet much to be done in this direction. If meat and milk are to remain the staple articles of life, all traces of disease and dirt must be removed. In order to secure such results more rigid inspection must be employed, and to do this more funds must be available and more authority given to municipalities. Local boards of health must be more active and show more interest in this work. Inspection of food-stuffs has already done much to educate the people, but there still remains room for improvement. It is astonishing how uninterested the public is in sanitation, but in spite of this indifference the whole situation is improving.

RETURNS ON POLIOMYELITIS

The State Board of Health has sent out one or two hundred copies of the subjoined letter and blank, and as some physicians who have had or seen cases may not receive the blank, the Board earnestly requests that all such physicians ask for these blanks and make proper report on the same. This matter is very im-

portant, and we trust no physician in Minnesota who can furnish such data as the Board is seeking, will fail to do so and to do it speedily.

LETTER.

Dear Doctor:

The enclosed schedule has been prepared with the intention of securing from every physician in the State who has had any anterior poliomyelitis in his practice a fairly complete account of each case which he has seen. You will note that a great deal more than the ordinary legal report of the case is asked for. We believe, however, that the amount of information which can be collected in this way will, when tabulated and published, be of the greatest advantage to the profession and the public of Minnesota, and probably also to the rest of the country. We believe, further, that we are justified in asking you to put some time and care in filling out the blank. We are sending one blank to every physician in the state except to those physicians where we have already reason to believe that more than one case has been encountered. If you have had no cases please note the fact on this blank and return it to us. If you have had more than one case, report one of them on this blank and notify us how many more you will require; they will be promptly sent to you. Of course we want the patient's name in order to prevent possible duplication, but it will not be published, our object being simply to get as complete an account of the epidemic as it occurred in this state as possible. So far we believe that we have already secured more definite information than has been possible in other outbreaks in this country, but we hope to make our final report even better than it would be with the information now at hand, by securing this material from you. All due credit will be given to those physicians who reply.

Very truly,

H. M. BRACKEN,
Executive Officer.

SCHEDULE FOR ANTERIOR POLIOMYELITIS

1. Physician's name.....
Date of filling out.....
2. Patient's name.....
Age Sex.....
3. Residence (by city, village, or township).....
4. Nationality of father.....
Of mother
5. Age and sex of other children at home.....
6. Age and sex of other members of family, hired help, etc.
7. Status of family: Rich, poor, medium.....
8. Health of family during 1909.....
9. Previous health of patient.....
10. Previous nutrition of patient.....
11. Had patient at any time scarlet fever, measles, whooping cough, etc.?.....
Specify which.....
12. Was patient robust and active, or the reverse?....
13. Date first seen by physician.....
Date of first symptoms.....

14. Symptoms of onset: Headache.....Fever.....
Vomit Constipation
15. Sore throat.....Retraction of head.....
Reflexes
16. Pain: distribution.....
Tenderness: distribution
17. Paralysis: date of onset.....
Paralysis: distribution
18. Improvement or increase of paralysis.....
19. Outcome of case.....
20. Connection of patient with previous cases.....
21. Connection of other members of family with other
cases
22. Have any subsequent cases developed in patient's
family or associates?.....
23. If so, give name.....address.....
Attending physician.....
Approximate date of attack.....
24. Weather preceding attack.....
25. To what did parents attribute attack (over-fatigue,
traumatism, etc)?
26. Were any animals in the neighborhood similarly
affected?
27. Was house of patient near stables where horses
were kept?.....

IMPORTANT MEDICAL DEFENSE AMENDMENTS TO THE BY- LAWS OF THE STATE MEDI- CAL ASSOCIATION

Every member, without a single exception, of the State Association is vitally interested in the new amendments to the By-laws and necessarily, every member will be glad of this opportunity to read these amendments, in order that he may, if occasion require, receive the benefit accruing to him by the action of the Association as defined in these new amendments, which give the course to be followed both by the member and the Association "in time of distress."

As we take it, the sole purpose of the Association in its tendered co-operation with individuals threatened with malpractice suits, is not to furnish cheap insurance, but is to give notice to a set of shyster lawyers that they can no longer prey upon the medical profession. One requirement of the Association is that no claim for damages in a malpractice suit shall be settled without the Association's consent. This clearly means the death of all blackmailing schemes.

And, the member may ask, what will it amount to? Let the answer come from experience. Over the counter of nearly every bank in the country is a small sign giving notice that the bank is a member of the Bankers' Protective Association. This is ample notice to "yeggmen" that the power of unlimited money will be used

to follow the man who robs that bank; and that notice has been respected. The Minnesota State Medical Association now serves like notice upon all blackmailing lawyers; and that notice will be respected. Malpractice suits find little or no profit outside of blackmail, which fruits in so-called compromise. The State Association has decreed that the evil tree shall no longer bear fruit.

The increase in dues to cover the expense of this righteous crusade against an intolerable evil is only one dollar per member, as indicated in Sec. 15, Chap. 9.

The new amendments are Sec. 6, Chap. 7; Sec. 15, Chap. 9; and all of Chap. 11.

Sec. 6. The Council shall investigate all suits for malpractice instituted against its active members. Each Councilor shall investigate the suits occurring in his district and report to the Council as a whole.

Sec. 15. The per capita dues of the members of the component societies shall be three dollars per annum, which shall be paid and forwarded as hereinbefore provided.

CHAPTER XI

Section 1. Active members of the Minnesota State Medical Association who have paid all dues, assessments, and other charges assessed or levied by the Minnesota State Medical Association, shall be entitled, on conditions hereinafter specified, to receive, without personal expense therefor, legal advice and court service of an attorney or attorneys-at-law in the employ of the Association, witness fees for the purpose of conducting their defense in any court in this state, when they are accused of malpractice, or of illegal transactions in connection with the commitment of persons to institutions for the insane.

Sec. 2. It shall be the duty of the Council, severally or collectively, to investigate all claims of malpractice against members, to adjust such claims in accordance with equity where possible, and, if in their judgment an adjustment is impossible, or the claim is unjust, or the damage sought is excessive, to tender such help, aid, and counsel as they may see fit. They shall be empowered to contract with a member of the bar of Minnesota as legal counsel of this Association.

Sec. 3. The Council shall make an annual report to the House of Delegates at the annual meeting for the year previous ending March 31st. This report shall contain an enumeration of all suits or threatened suits for malpractice against members of the Minnesota State Medical Association which have been properly presented to them for action.

Sec. 4. The legal services herein provided for shall be granted only on the following conditions:

First—Any active member desiring to apply for malpractice defense hereby provided, shall immediately upon receipt thereof send to the Secretary of the Minnesota State Medical Association, any letter, process of court, or other evidence of threatened litigation in connection with such malpractice case.

Second—It shall be the duty of the Secretary to forthwith examine the financial records of the Minnesota State Medical Association, and if such member so applying is found to have paid all arrearages, dues, or other charges due the Minnesota State Medical Association for the year, he shall certify those facts to the

Council of the Minnesota State Medical Association, and forthwith send to such Council the papers received from the applicant for defense and such Secretary shall forthwith return to the applicant, if he shall find that the applicant has paid all arrearages due the Minnesota State Medical Association, a formal application for defense containing authority for the said Association through its attorney to defend the action and granting to the Association and its attorney, sole power to conduct the defense thereof, and agreeing not to compromise or settle said claim for damages for said alleged malpractice without the consent of the Minnesota State Medical Association or its attorney. The said applicant shall furnish and return to the Secretary with his application duly executed, a full, accurate, and complete history of his treatment of the case out of which the alleged malpractice arose, giving dates, names of witnesses, nurses, and other attendants, all of which information shall, upon its receipt by him, be forwarded by the Secretary of the Minnesota State Medical Association to the Council of the Association.

Third—If, on the other hand, the Secretary finds that any member so applying has not paid all arrearages as herein specified, then and in that case, he shall return at once to the applicant all papers or memoranda received by him from said applicant, together with a statement that he is not entitled to defense and the reason therefor.

Fourth—It is further understood between each and every member of the Minnesota State Medical Association that under no condition or contingency will the Minnesota State Medical Association pay any sum awarded in settlement, compromise, or by any verdict against any member sued for alleged malpractice, and each member applying for the services of the attorney of the Association in any malpractice case, shall agree not to obligate in any manner the Minnesota State Medical Association or any persons connected therewith to the payment of any sums whatsoever for any purpose.

Fifth—The Minnesota State Medical Association will assume the defense in a suit for malpractice against a member only when the cause for the alleged malpractice occurred subsequent to the date on which the member joined the Association.

Sixth—This chapter shall be in force on and after April 1st, 1910, and the year shall end on the last day of March of each year.

The Secretary, Dr. Thos. McDavitt, St. Paul, will send the complete Constitution and By-Laws to any member of the Association applying for the same.

REPORTS OF SOCIETIES

MINNESOTA ACADEMY OF MEDICINE

The regular meeting of the Academy was held at the Minneapolis Club, January 5th, with thirty members in attendance.

Dr. Staples reported a case of acute lymphatic leukemia. The patient was sick but two months. He stated that medical treatment of this class of cases has been very unsatisfactory and suggested that surgeons may be able to help by making an operation to lessen the blood supply to the spleen.

Dr. Head mentioned a recent case in his ex-

perience, which had been recalled by Dr. Staples' report. His patient was 40 years of age, was ill but six weeks, and had continuously a temperature characterized by morning drop and evening rise. There was bleeding of the gums and an appearance of the mouth strongly suggestive of so-called cancrum oris. He believes that cases of this type are frequently mistaken for typhoid fever because of the similarity of the low continuous fever.

Dr. Gilfillan raised the question as to whether these cases are really lymphatic leukemia or myelogenous leukemia. He thinks the diagnosis can be made only at autopsy.

Dr. Benjamin reported a case of gunshot wound in the neck in which he had located the bullet by the x-ray, but when the operation was made for its removal the bullet could not be found. At a subsequent operation, however, it was found to be imbedded in the bone, whereas under the x-ray it had appeared to lie entirely free between the bones.

Dr. S. Marx White then read a paper entitled "The Diagnosis and Treatment of Cerebrospinal Meningitis, with Especial Reference to the Use of Flexner's Serum."

Dr. A. S. Hamilton, of Minneapolis, read his inaugural thesis entitled "Paretic Conditions in the Aged," and illustrated the subject with stereopticon pictures of sections of spinal cords examined by him.

ARTHUR W. DUNNING, M. D., *Secretary*.

WINONA COUNTY SOCIETY

The Society met at Winona, on Jan. 4th, with eleven members present.

A paper on "Gall-Bladder Disease" was read by Dr. E. S. Muir, Winona.

The following were elected officers for the current year: President, Dr. G. L. Gates; vice-president, Dr. W. V. Lindsey; secretary, Dr. H. F. McGaughey; treasurer, Dr. L. H. Munger, censor, Dr. C. P. Robbins.

H. F. MCGAUGHEY, M. D., *Secretary*.

STEARNS-BENTON COUNTY SOCIETY

The Society met at St. Cloud, on Dec. 22d, with nine members present. Papers were read as follows:

"Demonstration and Explanation of Pathological Specimens," by J. B. Dunn; "Chorea and Allied Conditions," by Dr. H. L. Lamb;

"Diagnoses and Their Importance in Obstetrics," by Dr. M. J. Kern.

The papers were thoroughly discussed and enjoyed by those present.

It was decided to hold three meetings open to the public and to discuss questions that pertain to every phase of protection against disease-producing influences in water, air, food, habitation, and personal hygiene. Two of these meetings will be held in St. Cloud and one at Sauk Center.

J. B. BOEHM, M. D., *Secretary*.

BLUE EARTH COUNTY SOCIETY

The Society met at Mankato, in December, with fourteen members present. The following officers were elected:

President, Dr. E. W. Benham, Mankato; vice-president, Dr. H. B. Grimes, Lake Crystal; treasurer, Dr. Lida Osborn, Mankato; secretary, Dr. T. C. Kelly, Mankato; censor (3 years), Dr. A. G. Liedloff, Mankato; delegate, Dr. J. H. James, Mankato; alternate, Dr. John Williams, Lake Crystal.

Dr. R. O. Julear, Mankato, was elected to membership. The Mankato members voted to raise fees as follows and recommended that country members do the same: day visits (in town) raised from \$1.50 to \$2.00; night visits (in town) raised from \$2.50 to \$3.00; obstetrics (uncomplicated) raised from \$15 to \$20; mileage (in country) \$1.00 per mile.

T. C. KELLY, M. D., *Secretary*.

JACKSON COUNTY SOCIETY

The Society held its annual meeting on Dec. 10th at Jackson. Papers were read as follows: "Clinical Observations and Incidents Occurring During Stay in Europe," by Dr. Moe; "Advantages of Post-Graduate Work in our American Hospitals, with Report of Cases Seen," by Dr. Arzt; "Experiences in a County Practice, with an Automobile," by Dr. Benson.

The following resolution was passed:

Whereas, It appears necessary, not only for the protection of the members of this body, but as well for the promotion of the best interests of the public at large, and the efficiency of the profession, that some means be adopted whereby the profession may be in some measure protected from those who would defraud, and so injure themselves, and the best interests of all concerned;

Therefore, Be It Resolved, That it shall be the

duty of each member of this organization, to furnish to the Secretary, every ninety (90) days, a list of all such individuals whom he may find in the course of his practice to be disposed to avoid payment for medical services rendered, together with a statement of the amount they are in arrears to such member; it shall then be the duty of the Secretary to furnish to each member of this Society, every ninety (90) days, a revised list of such names as may be sent him; and

Be It Further Resolved, That it shall be obligatory upon the members of this Society to refuse to render medical assistance to any one whose name appears on such list, until the bills for which they are in arrears are duly settled, (of which fact a receipt from the physician concerned, or a report from the physician to the Secretary, shall be prima facie evidence), except the assistance be for emergency cases only.

All members failing to comply with these resolutions shall be subject to a fine of fifty cents (\$50).

HENNEPIN COUNTY SOCIETY

The annual meeting of the Society was held on January 3d, with twenty-five members present.

The secretary-treasurer read his report for 1909, of which the following is a summary.

Cash on hand and receipts.....	\$ 3,091.39
Disbursements—	
Library	\$ 883.87
General	1,566.57
Total	2,450.44

Balance in checking deposit.....	640.95
Balance in Library fund.....	121.27
Amt. in bonds of trustees, with int...	500.00

Total resources \$1,262.22

The censors having reported favorably on the name of Dr. Lewis Van Deboget, he was unanimously elected to membership.

A letter was read from Dr. P. M. Hall, offering to furnish anti-toxin at cost to persons of limited means on certification of attending physician.

The following named physicians were proposed for membership: Dr. Petrus Nelson, Dr. H. G. Irvine, Dr. J. S. Reynolds.

Dr. J. W. Bell reported for the executive committee that the committee had, for the Society, sent greetings to Drs. McMurdy and Wang.

The president read his address, "Team-Work in Medicine."

The election of officers resulted as follows: President, Dr. C. A. Donaldson; first vice-president, Dr. C. A. Lapierre; second vice-president, Dr. J. P. Barber; executive committee, Dr. J. A. Watson and Dr. J. D. Simpson; board of censors, Dr. T. F. Quinby and Dr. W. B. Roberts; board of trustees, Dr. G. P. Crume and Dr. G. G. Eitel; delegates, Drs. F. E. Haynes, W. B. Murphy, A. N. Bessesen, G. D. Haggard; alternates, Drs. A. E. Wilcox, F. L. Adair, G. L. Hagen, J. W. Mintener.

C. H. BRADLEY, M. D., *Secretary*.

NEWS ITEMS

Dr. D. E. McBroom has moved from Fari-bault to Elysian.

Dr. H. V. King, of St. Paul, has moved to Parker, Arizona.

Dr. J. F. Baker has moved from Forest Lake to Davenport, Iowa.

Dr. Paul Robillard, of Olga, N. D., has sold his practice and will go to Montreal.

Dr. W. L. Rantz, of Lane, S. D., has sold his practice to Dr. Edgar, of Holstein, Iowa.

The Stearns-Benton County Society will hold an open meeting next month in Sauk Centre.

Dr. A. W. Miller, of St. Paul, has gone to Denver, Colo., and will continue in practice there.

Dr. W. R. Bagley, of Duluth, was married on January 1st to Miss Marion Miller, of Chicago.

Dr. F. C. Bowman, of Duluth, was married last month to Miss Jean Wallace, of Strond, Ontario.

Dr. W. H. Conner, of Chicago, has become a member of the staff of the Aurora Hospital of Biwabik.

Dr. A. G. Phelps, of Milaca, and Miss Sue Marie Onstad, of the same place, were married last month.

Dr. G. J. McIntosh, of Devils Lake, N. D., was married last month to Miss Mabel Colson, of Minneapolis.

St. Paul has opened a central tuberculosis dis-

pensary at 26 West Third St., with a trained nurse in attendance.

Dr. C. H. Hunter, of Minneapolis, has returned from a two months' trip to Europe, taken for rest and pleasure.

Dr. E. B. Daugherty, of Duluth, has been elected chief physician of the tuberculosis sanitarium at Lake Pokegama.

The Sanitarium at Chamberlain, S. D., has doubled its capacity by the addition of seventy-one new rooms for patients.

The Park Hotel at St. James has been purchased by Mr. B. W. Utman, mayor of Hudson, Wis., and others for use as a hospital.

The revocation of Dr. M. C. Wolf's license by the State Board of Medical Examiners has been sustained by the state supreme court.

Dr. Oscar Stenberg, of North Branch, has gone to Spokane, and will locate in or near that city. He is succeeded by Dr. Gaugher.

The Omaha Railway Employees' Association has selected the Worthington hospital as an Association hospital for the Omaha division.

The State Medical Association of South Dakota has redistricted the state for the purpose of strengthening some of the district societies.

A heating plant is being put into the new hospital building at Litchfield, and it is expected that the building will be ready for occupancy within sixty days.

Dr. S. Olney has returned to Sioux Falls, S. D., after a year's absence, and has given up general practice. He will do only office work hereafter.

Dr. J. C. Adams, who left Lake City several years ago to practice in Philadelphia, has returned to Lake City to live, and will resume practice there.

Dr. DeW. C. Jones, of St. Paul, was elected coroner of Ramsey county last month to fill the vacancy caused by the resignation of Dr. C. F. Miller.

Dr. George F. Roberts, of Minneapolis, has been appointed by the Governor a member of the Advisory Commission of the State Sanatorium for Consumptives.

Dr. John J. McGroaty, of Easton, received a purse of \$270 from the citizens of Easton. The money was given for the purchase of a microscope as a Christmas present.

The Blue Earth County Medical Society voted for an increase of fees at its annual meeting in December, and then issued to the public a very sensible letter giving the reasons for the step.

Dr. E. A. Hensel, of Alexandria, has sold his practice to Dr. A. D. Haskell, of Carlos, and will settle in California. Dr. Hensel has practiced many years in Alexandria, and his removal from the state, caused by poor health, will be greatly regretted.

The physicians of Pope County met in Glenwood last month and organized a post-graduate society with officers as follows: President, Dr. James Crozier, Glenwood; vice-president, Dr. Stuart Leech, Brooten; secretary and treasurer, Dr. C. A. Fjelstad, Glenwood.

Gov. Eberhart has made the following appointments on the State Board of Medical Examiners: Dr. F. B. Hicks, Grand Marais; Dr. H. F. Hord, Hanska; and Dr. J. W. Andrews, Mankato; Drs. S. Leight, Winona; Bolsta, Ortonville; and Brabec, Perham, are the retiring members.

[Notice.—A physician who offers his practice for sale through these columns is entitled to full information concerning an applicant, and unless this is given a reply may not be received, because a physician who sells the good-will of his practice is in duty bound to sell to a man worthy the confidence of his former patients, and to no other man will he make known his intention of changing his location.]

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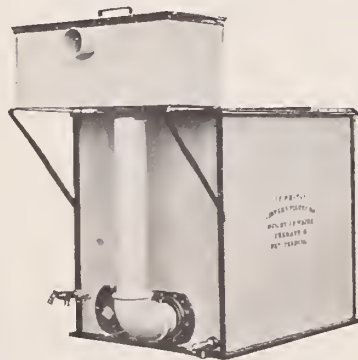
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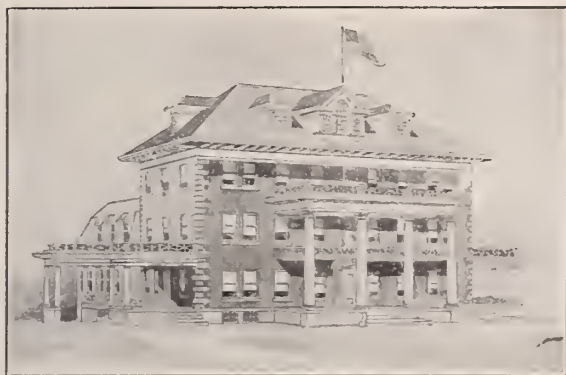
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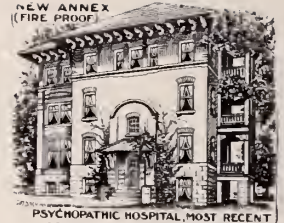
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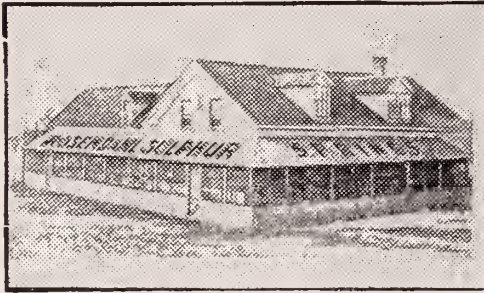
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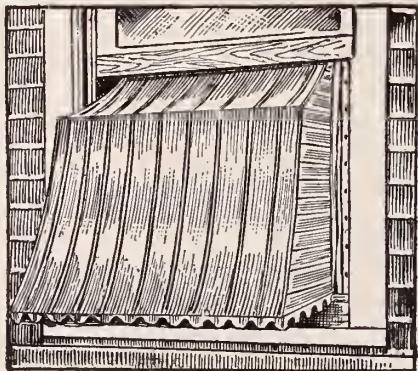
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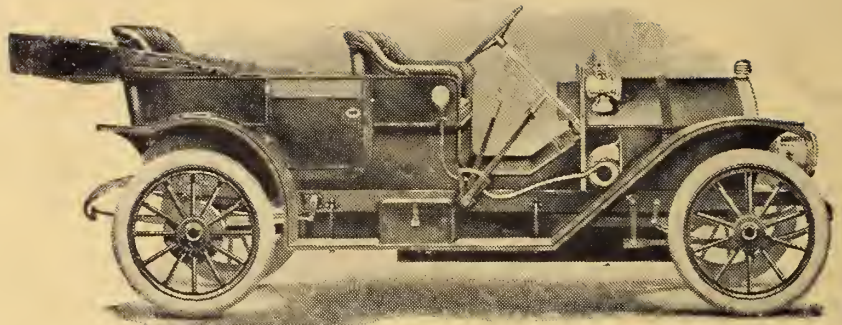
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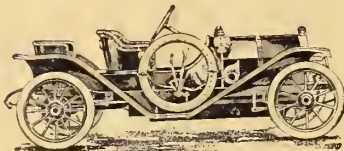
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MINNEAPOLIS, FEBRUARY 1, 1910

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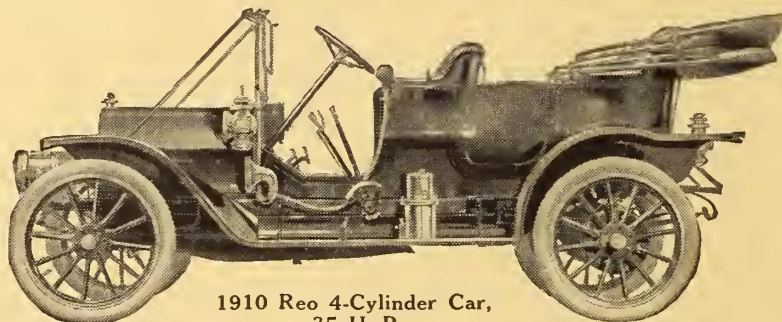
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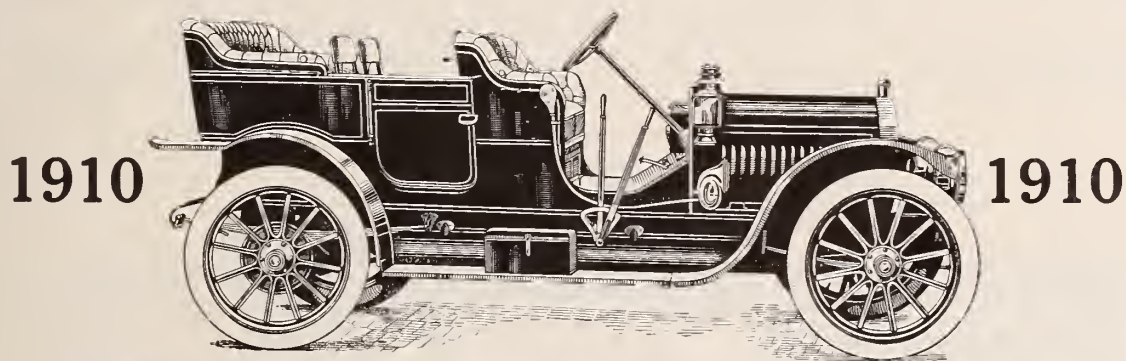
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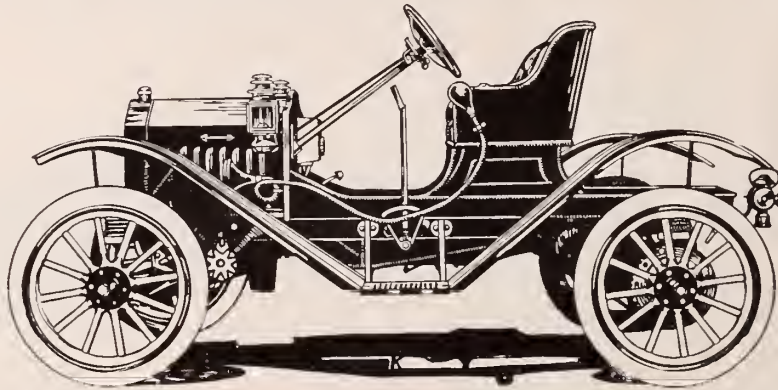
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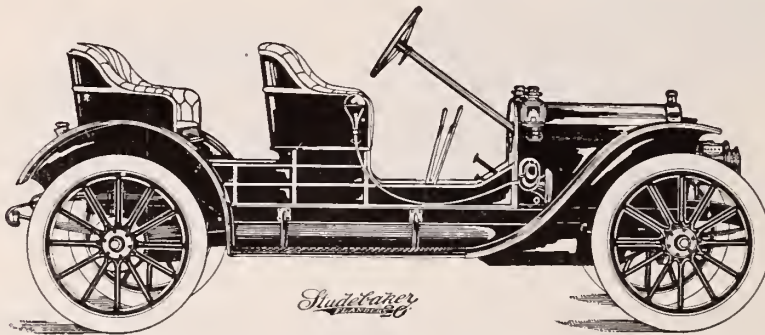
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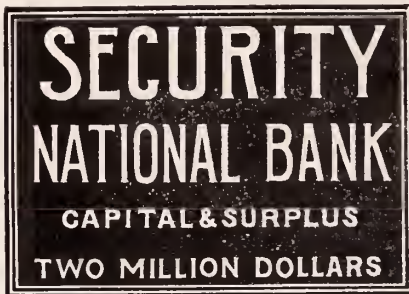
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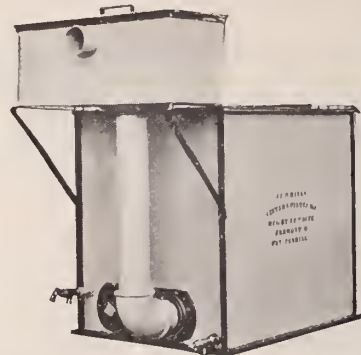
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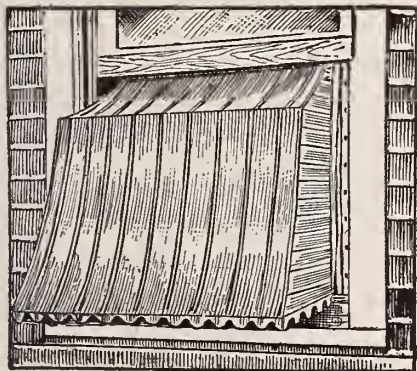
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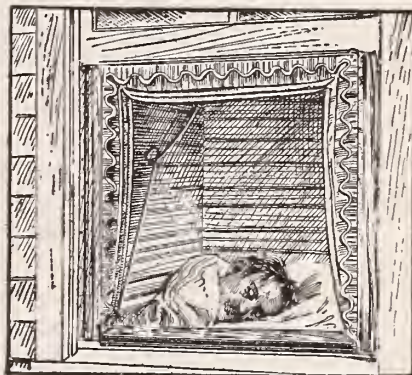
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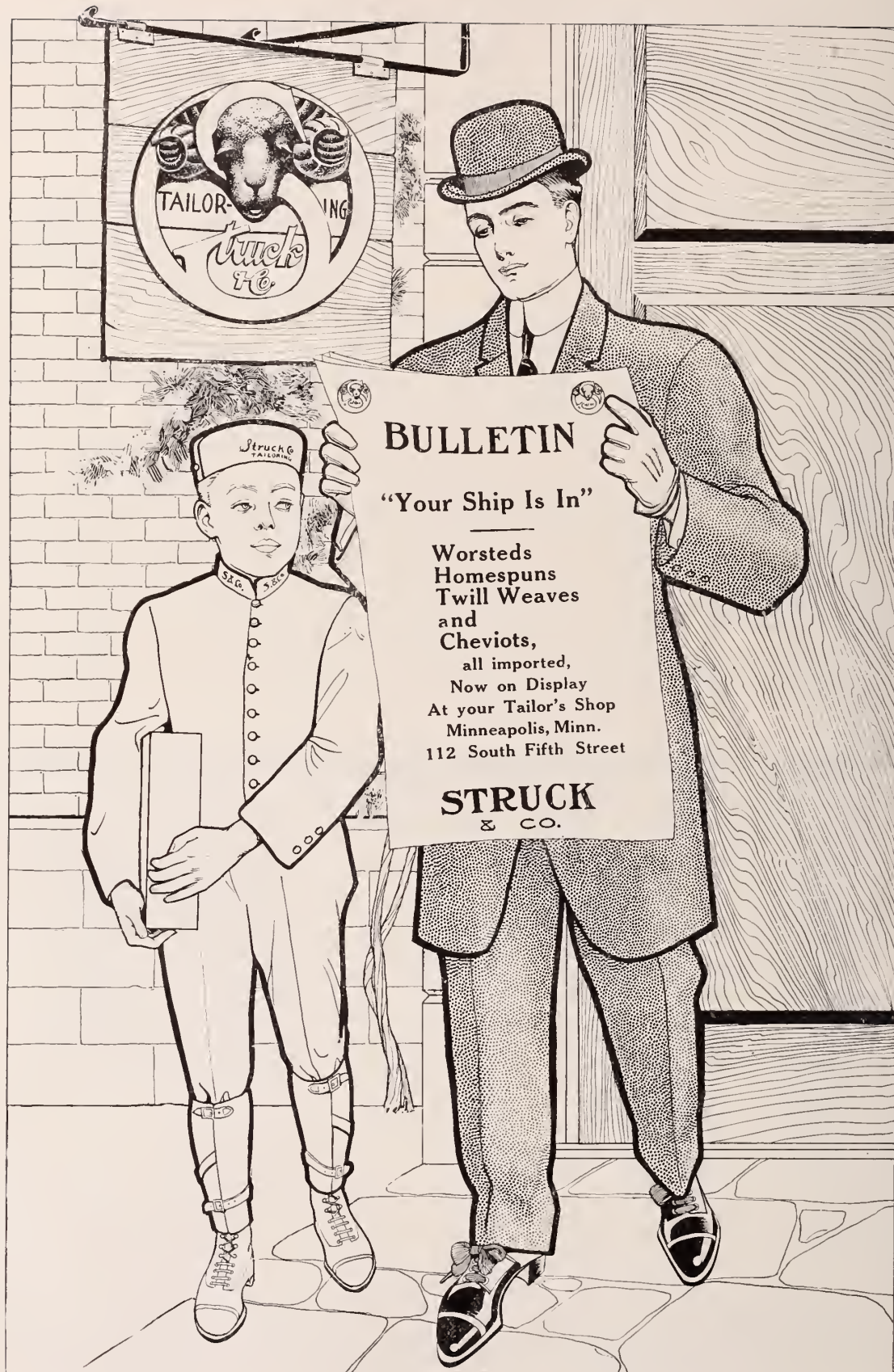
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SYMPOSIUM ON OPHTHALMIA NEONATORUM*

UNNECESSARY BLINDNESS

BY FRANK C. TODD, M. D.

Professor of Ophthalmology, University of Minnesota

MINNEAPOLIS

Ophthalmia neonatorum is, with the single exception of atrophy of the optic nerve, the most frequent cause of blindness. In Great Britain from 30 to 41 per cent of the inmates of four asylums for the blind owe their blindness to this disease. Burnett estimated that of the 50,568 blind persons in the United States, as shown by the census of 1890, at least 30 per cent had become blind from ophthalmia neonatorum. In France, Germany, and other countries statistics show a similar percentage. In our own state I am informed (through the kindness of Dr. F. U. Davis and Dr. Dow of the State School for the Blind) that Dr. Dow attributes to this disease between 10 and 11 per cent of the blind in the School for the Blind at Faribault, which is a somewhat better showing than that made in the more thickly populated states, such as New York and Massachusetts, where from 20 to 30 per cent of the pupils in the schools for the blind are blind from ophthalmia neonatorum, and where 10 per cent of the blind of all ages, in or out of the school, owe their blindness to this disease (Lewis).

Considering the fact that blindness due to this disease begins with life itself, while blindness due to atrophy of the optic nerve is a disease of middle life, and, furthermore, that in these statistics the many cases of partial blindness caused by oph-

thalmia neonatorum are not included, it may be seen that there is no eye-disease which in the aggregate handicaps humanity as much as this one. These cases are, with few exceptions, dependent upon the community for their support, and thus are a misfortune, not only to themselves, but to others.

Not every case is due to the gonococcus. A careful examination of the secretions sometimes fails to disclose the presence of this germ, while in quite a number of cases of the less severe form where the gonococcus cannot be found, the pneumococcus has been found in sufficient numbers to warrant the belief that this germ is the causal factor in some cases. The conjunctiva is especially prone to become infected by germs which cause purulent inflammation in the vagina, hence the disease may result from the infection from any purulent discharge. The severer forms of this disease, however, are caused almost invariably by the gonococcus. This germ is capable of producing rapid destruction of the tissues of the eyeball, and little time is required for the disease to secure such a hold that the best of treatment may be of no avail in preventing blindness.

When the disease develops, the patient should be put under the care of a skilled ophthalmologist, who should insist upon the employment of trained nurses and, if possible, those skilled in the treatment of eye-diseases and preferably those who have had experience in treating this particular disease. Two such nurses are required because constant treatment is necessary during the active stage of the disease. But if at every birth proper sanitary precautions were observed, ophthalmia neonatorum would rarely,

*Read at the 41st annual meeting of the Minnesota State Medical Association, held at Winona, Oct. 14 and 15, 1909.

or never, occur; for, knowing this disease to be an infectious one, which infection takes place after birth from the secretions remaining upon the outside of the closed lids, or during the passage through the parturient canal, and that we have antiseptics which will cause the destruction of the germ before it becomes so deeply embedded in the tissues that the antiseptic cannot gain access to it, we know that we have a disease which, with proper precautions, can be absolutely prevented.

To Professor Credé of Leipsic belongs the credit of first demonstrating the value of preventive measures. In 1882 he gave to the profession his ideas which have wrought such a change in the statistics that there is no question as to the efficacy of the treatment. Previous to the introduction of Credé's methods the percentage of cases of this dreadful disease in various lying-in-hospitals ranged from 4 to 19 per cent. Where the method is properly executed it does not now exceed 0.2 per cent, and this could no doubt be attributed to some neglect. For six years previous to 1880 in the Leipsic Lying-in Hospital 10.48 per cent suffered from this disease, and when the treatment was introduced the percentage for the next six months fell to 0.5 per cent, after which it was further reduced to 0.25 per cent. Dr. Litzenberg will give, in detail, the best approved and most modern method of prophylaxis, and I shall not therefore touch upon those details. But these facts have now been known for over twenty-five years, and yet this preventable disease is still a very common cause of blindness.

The American Medical Association is now endeavoring, through its committee, consisting of Dr. F. Park Lewis, chairman, Dr. J. Clifton Edgar and Dr. F. F. Wesbrook, to carry on a systematic campaign, in and out of the profession, to stamp out the disease, and from their report and suggestions made in other writings by Dr. Lewis, I shall borrow ideas in the concluding recommendations which follow, some of which are already in operation in our state, having been introduced by our Secretary of the State Board of Health, Dr. H. M. Bracken.

If every physician and midwife would always carry out the prophylactic recommendations which will be defined in detail in Dr. Litzenberg's paper, very few, if any cases, of ophthalmia neonatorum would develop; and the eradication of this disease would be an accomplished fact.

MIDWIVES

I believe that midwives should be compelled by law to practice prophylaxis for this disease; and that the practice may be made easy for them, they should be provided with the proper remedy put up in a convenient form ready for use. A pamphlet of printed instructions as to the method of application of the prophylaxis, with information as to what may result to the child's eyes if the midwife fails to carry out the instructions, should be a part of her equipment. Furthermore, she should be trained by some one competent to teach her as to the best method of conducting the infant's toilet, especially as to the care of the eyes. In her report of the birth, she should be obliged to state whether or not a prophylactic against ophthalmia neonatorum had been employed; and those who cannot learn to be cleanly should not be licensed to practice. If a discharge develops, the law in this state already provides that the midwife in attendance must immediately report to the health officer, in order that proper medical attention may be given.

PHYSICIANS

Physicians are derelict in their duty in respect to the prophylaxis of this disease, owing, largely, to the fact that they rarely see a case, and it seems necessary for them to have one experience, perhaps at the expense of one blind child, before they are sufficiently convinced of the wisdom of invariably practicing Credé's method. The advisability therefore of inserting upon the birth certificates the question, "Did you use a prophylactic to prevent ophthalmia neonatorum? If not, why not?" is a wise one. (This is now being carried into effect by Dr. Bracken.)

I believe, further, that physicians should be furnished, through the boards of health, upon request, with ampules containing 2 per cent of nitrate of silver (these are put up by Parke, Davis & Co.), in order that they may always have the preparation handy, which, furthermore, will have the advantage that it is always fresh. Printed information may be distributed among physicians, and medical societies should put themselves on record as favoring the invariable employment of a prophylactic against this disease. The objection, which may be raised, that parents may not like the implied insinuation, may be easily overcome by explaining that the practice is customary to prevent the development of sore eyes, which sometimes results in blindness and that it is not necessarily of gonorrheal

origin. *The physician will be blamed far less than is the case when the disease develops as a consequence of his neglect.* If there is a trained nurse in attendance she will be expected to perform the function of the toilet of the eyes, and I think that she should carry out the prophylactic treatment, even if not specifically instructed to do so by the accoucher.

THE PUBLIC

Furthermore, it is time that the public be given some truthful information for the protection of their families and offspring. This can be done by lectures and through lay publications. Helen Keller, who is an ardent worker for the blind and for the prevention of blindness, says: "The problem of prevention should be dealt with frankly. Physicians should take pains to disseminate knowledge needful for a clear understanding of the cause of blindness. The time for hinting at unpleasant truths is past. Let us insist that the state puts into practice every known and approved method of prevention and that physicians and teachers open wide the doors of knowledge for the people to enter in. The facts are not agreeable reading. Often they are revolting. But it is better that our sensibilities should be shocked than that we should be ignorant of facts on which rest sight, hearing, intelligence, morals, and the life of the children of men. Let us do our best to rend the thick curtain with which society is hiding its eyes from the unpleasant but needful truths."

FOR DISCUSSION SEE PAGE 51

THE ETIOLOGY AND PROPHYLAXIS OF OPTHALMIA NEONATORUM

By JENNINGS C. LITZENBERG, B. Sc., M. D.

Professor of Clinical Obstetrics, University of Minnesota
MINNEAPOLIS

The conjunctival sac of the new-born infant is particularly liable to infection, because of the deficiency of the epithelium and the lack of the protective layer of lymphoid tissue at birth. Mayou examined a number of the conjunctivæ of children, varying in age from birth to four weeks, where there was no inflammation and where silver nitrate had not been used. He also found that at birth there were no lymph or plasma cells in the tissue at all, but they began to appear after the first few days, gradually increasing till the fourth week when the lymphoid layer was fully developed. He also examined

the conjunctiva after the use of silver nitrate at birth, and found the lymphoid tissue (mononuclear leucocytes) developed to a greater extent than in a child two weeks old to whose eyes no irritant had been applied, "showing," to quote his own words, "that the silver nitrate used in the prophylactic treatment of ophthalmia neonatorum is not only effective by its antiseptic action, but that it also produces a barrier of leucocytes against infection."

Bacteriology.—The gonococcus is not only the most common germ found, but it also causes the most severe inflammations, the most profuse discharge, and most of the cases of blindness due to ophthalmia neonatorum. The pneumococcus B. of Koch-Weeks, staphylococcus pyogenes aureus, streptococcus pyogenes, B. coli communis, B. diphtheriæ, and micrococcus luteus cause an ophthalmia which is not to be distinguished from gonorrheal ophthalmia without the microscope. Other organisms that cause an inflammation of the conjunctiva, but without the characteristic clinical appearance, are B. influenza, staphylococcus pyogenes albus, and the Morax-Axenfeld bacillus. The following table shows the frequency in two series:

	Mayou.	Nance.
Gonococcus	57.5 per cent	70 per cent
Staphylococcus	20 per cent	10 per cent
B. Morax-Axenfeld	5 per cent	
B. coli	5 per cent	20 per cent
Pneumococcus	2.5 per cent	
Diplococcus	2.5 per cent	
Intracellularis?		

The next table shows the percentage of frequency of the gonococcus found by other writers:

	Cases.	Per cent with gonococcus
Kroner	92	68.47
Haab	16	87.50
Widmark	25	76.
Ammon	100	56.
Guerola	25	100.
Neisser	92	68.47
Andrews	122	100.
Hirschberg	32	100.
Kapfstein	51	58.82
Francisco	40	75.
Chartres	100	44.
Gonin	38	58.
Thomin	20	70.
Reyling	14	71.42
Cohn	553	52.98
Groenouw	40	35.
Alt	17	52.94
S. Stephenson	71	58.8
Mayou	35	75.7

Total1,483

The primary infection takes place before, during, or immediately after birth; the secondary infection occurs three or four days after birth on account of want of cleanliness by the nurse or midwife. There are several well-authenticated cases of fully developed ophthalmia at birth reported by Feis¹⁰, Nieden¹¹, Sattler¹², Armaignac, and many others.

Prophylaxis.—The fact is so well known that silver nitrate will almost surely prevent ophthalmia neonatorum that it seems wellnigh superfluous to dwell at length upon the subject, but the pity is that even with our known definite prophylactic methods ophthalmia neonatorum still occurs with disgraceful frequency, therefore I make no apology for emphasizing some well-known though neglected facts.

Our real prophylaxis should begin with the father and mother, for "as long as men with gonorrhea are permitted to marry and women with the gonococcus are allowed to bear children, so long will we have ophthalmia neonatorum." It is an axiomatic truth that men with gonorrhea should not marry, but they do; and what are we going to do about it? The expectant mother with a known gonorrheal infection should be treated for about two weeks before delivery by daily douches of bichloride of mercury not stronger than 1 to 4,000, lysol being substituted for the last douche to supply a lubricant. It must be remembered, however, that unless the woman is positively known to be infected douches must not be given.

It was only two years after Neisser discovered the gonococcus that Credé³, in 1881, found that a two-per-cent solution of silver nitrate reduced the percentage of ophthalmia neonatorum, which had been nearly 10 per cent, immediately to 0.86 per cent. Köstlin⁴ collected 17,000 cases not treated with silver nitrate with an eye-morbidity of 9 per cent and 24,000 cases in which silver was used with only 0.65 per cent of ophthalmia. These results are so astonishingly favorable that it is difficult to account for the failure to universally adopt it unless it be due to neglect, sentimental reluctance on account of the implied slur, or fear of the "silver reaction." Inasmuch as other germs cause the disease and only 65 per cent are due to the gonococcus any resentment may be allayed by a mere statement of

fact. As to the reaction due to the silver

has asserted that it is not only not to be

even desirable, its beneficial effect

due to the reaction, causing the pro-

tective layer of lymphoid cells to be formed early. Many substitutes for silver nitrate have been proposed, but none of them have proved more efficacious.

Table showing the percentage of ophthalmia after using different prophylactics.

Births	Statistics of	Solution used	Per cent of occurrence
24,724	Howe ⁵	2 per cent silver	0.65
6,397	Alverado	2 per cent silver	0.
3,000	Leopold	2 per cent silver	0.
1,223	Howe	1 per cent silver	2.4
	Glasgow		
	Maternity	1 per cent silver	1.0
	Queen Charlotte		
	Lying-in	1 per cent silver	1.6
965	Howe	1-1000 Bichloride	0.6
5,482	British Lying-in	1-2000 Bichloride	0.09
	Rotunda, Dublin	1-2000 Bichloride	0.009
10,369	General Lying-in,		
	London	1-2000 Bichloride	0.39
	Glasgow		
	Maternity	10 per cent Protargol	1.00

Cragin⁶ made a series of observations with the following results:

Series	Cases	Prophylactic	Per cent of Ophthalmia	Opacities	Eyes Lost
I	1,000	2 per cent silver	1.18	0	0
II	1,000	1 per cent silver	3.4	1	0
III	2,000	Protargol	2.65	1	1
IV	2,000	Argyrol	1.7	1	2
V	2,000	Argyrol	2.7	0	0

These statistics are not presented with the idea that they represent the exact values of the various solutions used, but to give an idea of their relative efficacy. Experience, as well as statistics, shows that no prophylactic excels silver nitrate; bichloride of mercury alone approaches it in statistical results. The Rotunda Hospital in Dublin has obtained especially favorable results with it since 1905, and it has the advantage of being in every obstetric bag, but it has been little used in this country. There seems to be no reason for changing our belief that silver nitrate is the best prophylactic.

There seems to be some difference of opinion between the two-per-cent and the one-per-cent solutions of silver; but the majority favor the two-per-cent solution followed by normal saline, in spite of the fact that even when neutralized about 25 per cent will get a "silver reaction." The one-per-cent solution does not usually give this reaction and is nearly as efficacious. Edgar showed by experiment that a .5 per cent of silver nitrate would kill the gonococcus in fifteen seconds. Theoretically any solution stronger than this would be sufficient if bactericidal effect is the only desire. The whole question seems

to hinge on the query, Is it desirable to avoid the "silver reaction?" If it is, the one-per-cent solution is better; if this reaction is not injurious, but is really a beneficial and conservative process, the two-per-cent is better, and in the literature it seems to have the better of the argument. In known cases of gonorrheal infection I believe it is safer to use the two-per-cent solution, not neutralized too quickly.

The results with bichloride of mercury in 1-2,000 solution have been so good that it is well to remember that in case one happens not to have the silver at hand he has always with him an excellent substitute. The actual infection of the conjunctival sac occurs immediately after delivery, and for this reason the lids should be separately sponged with a solution of boric acid or bichloride of mercury, and the instillation of the prophylactic be done as soon as possible. The technic of the installation is simple but important. One must be sure that the eye is open enough to surely permit the prophylactic to come in contact with the eye. This cannot be done while the baby is crying. I feel sure that in most of the cases where silver nitrate fails to prevent ophthalmia it is due to a failure to properly flood the conjunctival sac with the solution.

Ophthalmia having occurred I wish to emphasize the necessity of calling the ophthalmologist to carry out the treatment, for the reason that it requires special knowledge and eternal vigilance to prevent blindness.

CONCLUSIONS

1. The conjunctiva of the newly born is peculiarly liable to infection.
2. Many germs may cause the infection, but the gonococcus is responsible for at least 65 per cent of the cases and for nearly all of the severe infections.
3. Ophthalmia neonatorum may almost surely be prevented.
4. The two-per-cent silver nitrate is the surest prophylactic.
5. The one-per-cent silver nitrate is nearly as valuable.
6. Bichloride of mercury, 1-2,000, is a good substitute and should be used if one has not the silver.
7. If a prophylactic be used in the eyes of every new-born baby the present rate of ophthalmia neonatorum will be greatly reduced.
8. The treatment of the disease should always be turned over to the ophthalmologist.

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DISCUSSION

DR. F. E. BURCH (St. Paul): I am sorry that Mr. Dow is not here, because I believe his statistics would be valuable. He has been engaged for so many years in institutional work that he could tell us what ophthalmia neonatorum has done in later years, as affecting the statistics. The impression is general that it is becoming a rare disease and is destined to become still rarer. This is to be effected largely by the employment of antiseptic measures in midwifery and the enlightenment of the public in the battle with this disease. As nearly as I am able to make out from the statistics of Stevenson, which were presented in his monograph upon this subject, he places the figures for ophthalmia neonatorum during twenty years past at about one-half what they were during the previous two decades. The time of infection is almost always, of course, at birth. There are some cases where, no doubt, the infection, appearing on the first or second day after birth, the exact infection precedes the delivery of the child. We know that the great number of cases which come on from the first to the fifth day after birth must become infected at the time of birth, i. e., at the time of the delivery of the head.

A good many years ago, I think it was along in the 80's sometime, a man by the name of Snell carried on some interesting experiments without the use of chemical antiseptics, such as the Credé method. In this particular series he delivered some 2,400 women, and as he contended that infection occurred during birth, and that if the eyes were kept *dry*, and if they were not opened and there had not been premature rupture of the sac or a facial presentation, infection could be avoided. During the last 2,000 cases he did not have one of ophthalmia, which was prevented simply by the wiping away the caseous matter until such time as the deposited germs had time to die out. The only objection to the use of the silver-nitrate treatment is that it occasionally causes irritation. Most of such instances I believe are due to the faulty use of the silver nitrate. A good many cases have been treated by the use of the Credé method with eversion of the lids, or the irritation was caused by the too frequent use of silver nitrate. The thing to be done is to *barely separate* the lids and drop in the nitrate and use *no water* in the eye at all. On account of the strong reaction which silver nitrate produces I would advocate the weaker solution, and so far as I am able to learn the one-per-cent solution is as efficient or nearly so as the two-per-cent solution. Some hospitals claim to have used argyrol with equally good results. It simply emphasizes the value of *some* prophylactic treatment.

Whether or not we ought to legislate along the line of prevention, I am not prepared to say until the standard of midwifery is considerably raised. I think the burden of responsibility rests with the physician, and I believe we might get along without such drastic

measures as legislation for the use of the Credé method.

Ophthalmia neonatorum ought to be reported, and as soon as a sign of the disease is observed the case ought, if possible, to be taken to a hospital.

DR. J. C. BOEHM (St. Cloud): The point at issue I think is whether a one-per-cent solution is not as good, or nearly as good, as a two-per-cent solution. I think it is just as well to use a two-per-cent solution as long as you are not absolutely certain that a one-per-cent solution is entirely efficient.

I want to say here that ophthalmia is a rare disease in country districts, but occasionally we do find it. It is just as easy to apply a two-per-cent as a one-per-cent solution, and I think the only way to use it, is to use it strong enough so that you are absolutely sure that it does what it ought to do.

DR. J. F. FULTON (St. Paul): I would like to say a word or two on the prophylactic side of the subject, although there are many other phases that might be discussed.

In regard to the preventive limitations: My experience has been that we do not resort enough to the washing-out treatment of the conjunctival sac. I have been in the habit of washing out with a normal salt solution and bichloride, in addition to the Credé method. I am also persuaded that a two-per-cent solution is too strong, i. e., 10 grains. I think two grains is far safer and just as efficient.

When it comes to the application, so many physicians in dropping the protargol, argyrol, or nitrate do not get it at the seat of the disease. I have seen physicians wasting time in inverting the lids, which is not necessary. The lids can be drawn up with a retractor and the application made with a probe with some cotton wrapped around the end. You can get completely at the surface of the conjunctiva and at the folds.

The treatment of the cornea should be carefully watched. Many physicians overlook that point. This should be protected, not only against the attacks of the secretions, but against the remedy itself. Nitrate of silver is apt to injure the aperture of the cornea. This may be obviated by the use of cosmoline, which can be applied by means of a tube, made at the present time, and it is very efficient.

The laceration of the cornea is a matter that needs attention. If the center of the iris is kept away from the outer edge I prefer to use a weak solution of eserine for that purpose. The use of the nitrate compound is useless in clearing up corneal cases.

I believe this is an entirely unnecessary disease, and I think Dr. Todd gave a practical title to his paper. The average oculist would never see a case of ophthalmia neonatorum if the physician would do his duty by his patient, and if he were in a position where he could do his duty.

We find as a general thing statistics are not reliable. Unless you can get the history of the cases of midwives you cannot get satisfactory statistics. For this reason all statistics should be looked over by specialists and oculists themselves. I know there is not one case of ophthalmia now where there were twenty twenty years ago. If we will use our present knowledge I think it will be a question of only a short time before the disease is wiped out entirely.

DR. WILLIAM R. MURRAY (Minneapolis): Ophthalmia neonatorum is a preventable disease, and that is the point which should be emphasized most particularly. Since the introduction of the Credé method of prophylaxis the number of cases of ophthalmia has been greatly decreased, but the fact remains that this form of prophylaxis is not as generally employed as it ought to be. A considerable number of cases are admitted annually to the Minneapolis City Hospital, and I have no doubt but that the same is true in all the larger cities. At the present time in state institutions throughout the United States, statistics show that about 20 per cent of the cases of blindness are there as a result of ophthalmia neonatorum.

In regard to the particular form of prophylaxis: I do not believe that we have any reliable substitute for silver nitrate. I am aware that a number of writers have advocated the use of some of the newer silver preparations, such as argyrol and protargol, but I do not believe that their value has been proven, and I do not think that their use should be advocated as a substitute for silver nitrate as a reliable prophylactic treatment. The report of the committee appointed by the British Medical Association to investigate the bactericidal properties of the various silver preparations, shows that silver nitrate and protargol are strongly bactericidal, while argyrol is without any bactericidal action.

In regard to the strength of the solution to be used: I am strongly in favor of a two-per-cent solution. We know that a two-per-cent solution is a thoroughly reliable prophylactic, and when we have such statistics as are shown by the Credé method in the use of silver nitrate, I do not think that we should rely upon any weaker solution. A two-per-cent solution may cause, at times, a slight silver conjunctivitis, but it quickly disappears and is not a serious objection. There are, however, some exceptions to this rule, and I have seen one case of silver conjunctivitis in which the reaction was so severe as to simulate the early stage of a membranous conjunctivitis.

In regard to the possible objection that the universal use of any form of prophylaxis may cast some suspicion upon the parents as to there being a possible source of gonorrheal infection present: It should be remembered that not all cases of purulent ophthalmia in the new-born are due to infection by the gonococcus, but a considerable proportion of these cases are caused by other forms of infection, as stated by the essayists, and prophylactic measures would be indicated for these other infections, as well as for the gonococcus.

I would emphasize again the fact that this is a preventable disease, that it is responsible for a very large number of the cases of partial and total blindness, and that the care of these unfortunate cases in our State institutions is a source of very great expense to the State. I believe that some form of legislation should be enacted for the control of this disease.

DR. JOHN STEINBACH (Winona): I wish to say that I hope none of the physicians will be deluded into believing that as low as 60 per cent of these cases are due to gonorrhea, when such authorities as Hirschberg and Andrews find 96 per cent due to gonococcus. I think that this figure is nearer the truth than any of the other observations.

So far as treatment is concerned I have little to say.

because Dr. Fulton has laid down the correct procedure, but so far as the use of nitrate of silver is concerned, in some cases you are going to get leukoma if you use it. A strong solution of alum is just as good as nitrate of silver, and it will not cause leukoma.

Ophthalmia does occur in the hands of physicians. I know of two cases of total blindness due to ophthalmia, that occurred in this county in the hands of a physician who dallied with argyrol and other new-fangled silver preparations. I can only remember three cases of ophthalmia that occurred in the hands of midwives. The use of nitrate of silver as strong as two per cent may not do any injury, but it should not be used for any length of time. If a case is due to recent gonorrhea the Credé method could not be carried out, as Dr. Fulton has mentioned, and it will take a long treatment to kill the gonococcus.

DR. D. P. DEMPSEY (Kellogg): There was one proceeding advocated by some who preceded me that I cannot pass by without a protest, and that is that all these cases of ophthalmia should be turned over to an ophthalmologist. The average doctor should know how to treat these cases on the spot. There would be valuable time lost in sending for an ophthalmologist. You might have to send quite a distance for him, and it tends to take the responsibility from the attending physician, in place of bringing it right at his door where it belongs. He may not always be equal to it, but he should be made to assume his responsibility for that condition. If we are to shove all these cases off on an ophthalmologist it will lead to a lack of interest on the part of the attending physician in place of his being prepared to act on the spot and apply preventive measures.

DR. H. B. SWEETSER (Minneapolis): I am not an ophthalmologist nor a specialist in obstetrics, but I have been quite interested in the statement regarding the superior efficiency of nitrate of silver as a prophylactic in this disease. I have run across a good many cases in which I have been consulted, where the instillation of a strong solution of nitrate of silver had produced a marked conjunctivitis, and in which the physician questioned very seriously whether the inflammation was not entirely of his own manufacture, and not at all gonorrheal. Such cases are very disturbing and cause a good deal of anxiety until they recover. From these experiences I confess that I prefer argyrol to silver nitrate as a prophylactic.

Further, it was news to me to hear Dr. Murray say that argyrol has no destructive effect on the gonococcus: clinically I should infer otherwise. I have seen cases of ophthalmia treated by ophthalmologists with silver nitrate, cold and hot, and constant irrigation by a trained nurse, and have watched them go from bad to worse, until argyrol has been substituted for the silver nitrate; and then I have seen these same cases clear up rapidly and go on to cure without resulting blindness. With the knowledge of such results I must confess to some prejudice, and that it would take strong proof to make me change my faith in the relative value of silver nitrate and the newer silver salts in the prophylaxis and treatment of ophthalmia neonatorum.

DR. J. STEINBACH: If argyrol or protargol is used in the earlier stages of gonorrheal ophthalmia, I doubt

whether it is efficient. It has, perhaps, more healing power in the later stages than nitrate of silver, but as a preventive I give it but little weight. It does not take the place of nitrate of silver, and if physicians produce conjunctivitis with nitrate of silver it will show itself as a recurrent simple conjunctivitis, and if you have no swelling you have no ophthalmia before you. If anyone has produced conjunctivitis with the nitrate he has been on the safe side. We have had two cases in our hospital, and we used a strong solution of boracic acid with the best result. They were both bad cases but the treatment was given at once. The disease was recognized on the second day, and we kept up constant irrigation, with the best results.

DR. F. C. TODD (Essayist): The object of presenting this symposium before the Association was to bring out the fact that we are not carrying out our duty toward these patients, and that, as a consequence of our neglect, ophthalmia is not disappearing, and not to discuss as to whether protargol, argyrol, or nitrate of silver is of much more benefit, one than the other. But since that has been brought out I wish to say a few words regarding the relative value of these remedies. The statistics which Dr. Litzenberg has given you conclusively show that a two-per-cent solution of silver nitrate is the most valuable prophylactic we have. Statistics have been gathered to show that argyrol is very much less effective as a preventive measure than a two-per-cent solution of nitrate of silver. So in ophthalmia, as in other diseases, conclusions cannot be drawn from three cases, and conclusions that have been drawn have come from Dr. Litzenberg's practice and from a large number of cases occurring all over the world.

What Dr. Murray has said in regard to the efficiency of protargol and argyrol is correct. Argyrol is only weakly bacteriacidal. It has, however, some therapeutic value.

Ophthalmia neonatorum is not a common disease in sparsely settled communities, and in my practice in Minneapolis I have so few cases that I would regard my experience as of no value in private practice. My experience has always been in city hospital work where we have cases brought in from outside, cases which would not exist if at birth prophylactic measures had been used.

When argyrol came in it was stated that it was a more valuable antiseptic than protargol. We had been using protargol in the treatment of the disease, but not as a prophylactic, in preference to silver nitrate, and with better results than with silver nitrate. We then changed to argyrol, with not as good results, and the cases remained longer in the hospital. To prove the comparative merits I then treated cases with protargol in one eye and argyrol in the other; i. e., we treated the right eye with protargol and the left eye with argyrol, and in every case the eye in which protargol was used cleared up quicker than that in which argyrol was used. Similar experience was noted by Dr. Myles Standish at the Massachusetts Eye and Ear Hospital where they have a good many cases. But as a *prophylactic* measure nitrate of silver is more effective than either of the others.

Again, I think these cases should be taken care of by an ophthalmologist, if possible, and I recognize the

fact that a country physician cannot always secure the services of an ophthalmologist, and therefore I think he should send these cases to the city more often than he does. I note that when the eye has been destroyed the patient is brought to the city to consult an ophthalmologist.

We find, further, that it depends as much upon the nurse as upon the man who directs the treatment, and in such cases those who have had some experience in the treatment of eye diseases can secure far better results than the unskilled nurse.

There are some cases of ophthalmia that occur even though prophylactic measures are used, and those are the late cases. Just as the adult may have gonorrheal ophthalmia, so the child may be infected weeks or months afterwards.

I do not wish to leave this subject with this discussion, but I wish to have some resolutions* drawn up putting this Association on record as to the prevention of ophthalmia in this state and what measures should be resorted to. As I said in my paper, Dr. Bracken is awaiting instruction from this Association as to what measures shall be carried out.

DR. J. C. LITZENBERG (Essayist): The results, as quoted by Dr. Burch, of wiping the lids simply emphasize one part of prophylaxis, and that is often neglected. If we recall that infection must always occur immediately after birth in the conjunctival sac we shall realize the necessity of this precaution, because the child acquires the germs during the passage through the canal. He prevents actual infection of the sac by this means, and this is an argument for using a prophylactic in the eye, because how do we know, if the germs are present, that they have not entered the conjunctival sac, and we do know that some even have been infected in utero because some children have been

*Resolutions to accomplish the ends sought were passed by the Association, and at the proper time an effort will be made to obtain legislation upon the subject.

born with well developed cases of ophthalmia at birth.

The way to meet the question is to educate the people. The public ought to know the terrible truth even though gonorrhea is generally the cause of the disease, and we should not hesitate to educate the public that it is an infection that comes at birth and that any baby is liable to have it. I think it is fortunate that not all cases are caused by gonorrhea, because that makes the education of the people easier, for we can tell them that some cases are caused by other means of infection, and they will be satisfied. I admit that nearly all of the severest cases are due to the gonococcus.

Now, the fact that the disease is very rare in the country is just the reason why all cases should be turned over to an ophthalmologist. I can class myself with the general practitioner. I am not an ophthalmologist, but I probably see more cases of ophthalmia in the City Hospital than the general practitioner, and even with the large number I see I feel incapable of handling them. The actual number is relatively so few I do not feel as though there are enough cases from which I could gain experience to make me expert in handling them. It is unfortunate that the general practitioner should not be able to treat these cases, but it is simply because the cases are relatively so rare that he cannot gain the experience necessary.

Two or three have asked me what the silver reaction is. I thought that term was understood. It is simply the production of inflammation which causes a discharge from the eye.

Dr. Sweetser says it causes disaster to the general practitioner. A microscopic slide and a few drops of stain under the microscope will take away the worry. In the hospital I have experimented in one eye with a two-per-cent solution unneutralized and a two-per-cent solution neutralized. You do not always get a reaction, but if you do it is with the two-per-cent solution neutralized. Twenty-five per cent of cases show that reaction. If a discharge comes I have a study made of it to know whether it is gonorrhea or not.

WHAT CASES OF TUBERCULOSIS ARE SUITABLE FOR TREATMENT AT THE STATE SANATORIUM?*

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Since the opening of the State Sanatorium for the treatment of pulmonary tuberculosis in Minnesota, less than two years ago, there has been manifested by the physicians throughout the commonwealth a very great and encouraging interest in the work of this new institution. Closely correlated with the city dispensary, the near-by hospital for hopeless cases, and the local antituberculosis societies, the Sanatorium is an

important factor in the present active campaign which the world is directing against this disease. In addition to its influence as an educator, an influence which is widespread and inestimable in value, the function of the State Sanatorium is peculiarly the treatment of those cases which bid fair to recover, partially or completely, within a reasonable length of time, i. e., become what is termed economically cured, or sufficiently restored to health to be self-supporting. As the best results cannot be obtained without a careful

*Read at the 41st annual meeting of the Minnesota State Medical Association, held at Winona, Oct. 14 and 15, 1909.

selection of cases, and as it is extremely important that all physicians in the state should be familiar with the conditions governing the admission of patients, it is the purpose of this paper to set forth these conditions in an attempt to reply to the oft-repeated question, What kind of cases do you admit?

The statute establishing the institution reads as follows: "Only persons who have resided in the state throughout the year preceding application, and who are afflicted with incipient pulmonary tuberculosis shall be received into the Sanatorium." The law does not define the term *incipient*. Until a few years ago, when the National Association for the Study and Prevention of Tuberculosis described in detail the terms to be employed in classification of these sanatorium cases, there was no uniform system of tabulating them, each sanatorium worker employing his own terms, more or less inharmonious with those of other sanatorium records. Now the accepted schema of the National Association is in general use. The "incipient" case, according to this classification, presents but very few signs of disease. He may have a "slight initial lesion in the form of infiltration limited to the apex of one or both lungs or a small part of one lobe." There should be no "tuberculous complications." Only slight constitutional symptoms are permissible. This applies particularly to gastric or intestinal disturbance or to rapid loss in weight. There should be very little, if any, elevation of temperature or quickening of the pulse, especially after rest. The expectoration, if present, is small in amount with tubercle bacilli present or absent. There is no "marked impairment of function, either local or constitutional." Many patients tabulated by this classification as "moderately advanced" or even as "far advanced," if carefully selected, will make satisfactory improvement and are therefore classed among the hopeful cases.

I believe the spirit of the law governing the Minnesota Sanatorium is carried out by admitting any case which is considered hopeful, selecting from among the applicants, first, the incipient, and then certain of the advanced cases which are taken for trial periods of a few weeks. It is evident that the number of vacancies existing at any time in relation to the number of applicants in the incipient stage will determine the number of advanced cases admitted. It is always possible to select from this class patients who offer the hope of making satisfactory im-

provement and who should have the benefit of the doubt, provided it is thoroughly understood that they are taken for a trial period and that the length of stay is uncertain.

It is not always easy to make this selection. Ninety-five examiners, representing all the counties of the state, submit records of their examinations, giving detailed description of previous diseases and complications, and a complete history of the present illness, with symptoms and a record of chest-examination. These applications are tabulated chronologically, and all cases that appear to be incipient are admitted in order and usually without delay. A study of such records here and in another state, approximating twelve thousand in number and covering some years in time, tends to the conclusion that a very small percentage of the patients who appear for examination are incipient, and that many of the apparently incipient upon further consideration should be classed as advanced.

There is, in many instances, an element of doubt regarding the eligibility of the applicant because of the peculiar conditions under which the examination is made. The patient may have come a long distance or be peculiarly nervous, or he may present signs or symptoms which vary from day to day, indicating the uncertainty oftentimes of a single office consultation. Physicians sending patients to the official examiner should bear in mind that unless the patient is undoubtedly incipient, his acceptance may be delayed indefinitely, a delay for which the examiner is in no way responsible, and any criticism which may come upon him in consequence is manifestly unfair, as no examiner can keep in touch with the varying population at the Sanatorium and the number of applications received.

The curability of pulmonary tuberculosis depends upon the stage of the disease: in fact we believe it is only the early case that is really cured. Records of all sanatoria show a large percentage of rejected applicants. Why is this? If there exist in any community ten times as many consumptives as those who come to our notice (and this has been the conservative estimate), is it not fair to conclude we have in our midst many early cases to be diagnosed and brought to a realization of the seriousness of delay? Allowing for a reasonable amount of ignorance and indifference on the part of the patient and his friends, are not we physicians, to a serious extent, responsible for the delay in detecting these incipient cases? We all know that defi-

nite signs of tuberculosis frequently follow in the wake of typhoid, influenza, pleurisy, pneumonia, or a succession of "colds;" and that, when we realize the universal prevalence of tuberculosis, we should suspect its presence in any condition of ill health not otherwise definitely diagnosed; that lassitude, loss in weight, and slight fever are, very frequently, early symptoms and very apt to be overlooked. Trudeau, our leading phthisiologist, whose experience in sanatorium work far exceeds that of anyone else in this country, in an article on the importance of the early recognition of tuberculosis, expresses himself on this point as follows and in no uncertain words: "A diagnosis of truly incipient tuberculosis would no doubt be oftener made if its all-important bearing on the treatment was more fully appreciated. My experience in going over the histories each year of many hundreds of consumptives would lead me to believe that the grave responsibility which rests on the physician of detecting the disease in its very earliest stages and the significance of doing so in relation to successful treatment are not generally realized. In the great majority of cases valuable time (many months and even years) is allowed to elapse since the first symptoms of ill health appear before the patient is told the nature of his disease and urged to adopt radical measures for its arrest and cure. Too often he is not told that he has tuberculosis until he can no longer be deceived. His disease is labeled grip, pleurisy, bronchitis, or malaria; he is informed that the blood came from his throat, until persistence of the symptoms, rapid emaciation, constant cough, hectic fever, and sweats, make the true nature of his malady but too apparent, when he is advised to give up his occupation and make a change of climate or seek admission to a sanatorium, only to find that the proposed change is of little avail, or that he has applied too late and cannot be taken at an institution."

Much is being written now-a-days upon the early diagnosis of pulmonary tuberculosis. While the limits of this paper do not include an exhaustive discussion of this phase of the subject, it is not irrelevant to emphasize its great importance and to point out a few errors more or less in common practice.

First.—It is a mistake to delay diagnosis until bacilli are detected in the sputum. We know that bacilli cannot appear until there has been ulceration of the tubercle, which means a well-established focus of disease. Diagnosis can fre-

quently be made in closed tuberculosis by the early chest-signs and the general symptoms; and in doubtful cases the tuberculin test will determine the diagnosis. My report of the first year's work at the Minnesota Sanatorium includes eight cases of doubtful tuberculosis admitted for observation in all of whom the tuberculin test was employed. Others of this class have been admitted since the report was written. A single examination is not always satisfactory, and it is necessary in many instances to keep the patient under close observation for a time, studying the symptoms in relation to the history of the illness, examining the sputum frequently, and the chest also, before an exhibition of the tuberculin test is decided upon. Instead of keeping these doubtful cases under observation at home, if the physician so desires, he may send them to the Sanatorium.

Second.—Hemoptysis, so often misinterpreted, is rarely due to any other cause than pulmonary tuberculosis. One writer says: "The patient who coughs and spits one or more drachms of blood should always be assumed to have pulmonary tuberculosis, whether or not abnormal physical signs are present in his lungs, and whether or not his previous health has been perfect." Another concludes that "when true hemoptysis occurs without assignable cause, it is to be regarded as being due to a tuberculous process." In my own experience many cases of advanced disease have reported hemoptysis occurring months before and presumably at a time when the disease was in its incipency, but was not diagnosed even after the blood-spitting occurred.

Third.—Pleurisy as a forerunner or as an initial manifestation of tuberculosis is frequently disregarded. It is not a rare occurrence for a patient who has been told his disease is of three or four months' standing only, to report the existence of a severe pain in the chest with or without treatment for pleurisy by his physician some twelve or eighteen months previous to admission, the present pulmonary signs undoubtedly pointing to the pleuritis as the beginning of the pulmonary disease. That pleurisy is present in a large percentage of all cases at some stage in the development is shown by Landry in an interesting study of thirteen hundred autopsies where 83 per cent of the cases of pulmonary tuberculosis presented plural adhesions.

Fourth.—In examining the chest we should keep in mind that *anything* abnormal at the apex, is very suspicious, and that a chest should never be examined through the clothing. In the early

cases percussion is of very little aid. We must rely upon auscultation. The initial roughened breathing is heard with the stethoscope before percussion gives any evidence. Probably the presence of râles, although not always an evidence of early disease, is most commonly the first positive sign found. In this connection I wish to emphasize a practice which ought to be, but is not, in universal use. If the patient is asked to cough at the end of a forced expiration, with inspiration, râles will often be heard over an area otherwise thought to be negative.

I should like to present a few examples of these desirable early cases, as follows:

Man, Scandinavian, married, aged 37 years, bookkeeper, still working; previous history excellent except that he catches cold easily; present illness began with a "cold" five weeks ago, cough has continued during this time with small amount of sputum in which streaks of blood have appeared once. There is no impairment of digestion, and only a slight loss in weight. Very little weakness. Temperature at time of examination, 4 P. M., 99.2°, pulse, 88. Says he has had slight fever for some time. Chest-examination reveals at the left apex a slight dullness, with crackling râles at the end of inspiration. After admission bacilli were found in the sputum.

Woman, aged 21, student, previous condition good. Had grip in November, at which time she was in bed ten days, having some fever. At the time of examination, about thirty days after the initial symptoms of influenza, she had slight cough, no sputum, slight weakness, had lost six pounds in weight. Temperature, 99°; pulse, 85; and is one of the cases which are frequently overlooked. Fortunately her physician is particularly interested in tuberculosis and suspects its presence. At the right apex only a suspicious roughness exists. In the Sanatorium the tuberculin test was positive. This case was discharged apparently cured after a stay of five months.

Another case is a woman 38 years of age, teacher in the public schools, presenting a very good previous history, has coughed for eight months following a severe cold in the spring, no impairment of digestion, no loss in weight, very little weakness, history otherwise negative, except slight fever (99.2°); pulse 110 at 2:30 P. M. At the right apex prolonged expiration with slight dullness, and a very few crepitations at the end of inspiration. Bacilli were finally found in a scanty sputum.

Among cases that are excluded as being mani-

festly unsuitable are classed those complicated by an involvement of the osseous system, genito-urinary tract or intestines, much involvement of the larynx or extensive adenitis; cases with persistent pyrexia when at rest at home; those having Bright's disease, mental disease, neurasthenia, marked gastro-intestinal disturbance, or any other condition which debilitates the patient and renders him incapable of responding to the rigorous outdoor life—particularly is this true during the cold winter months when rheumatism, neuralgia, neuritis, asthma, or marked bronchitis seem to be unfavorable complications. Cases with far-advanced pulmonary lesions are unsuitable, i. e., those giving evidence upon chest examination of the existence of more than moderate consolidation or excavation as indicated by marked dullness, tympanitic resonance, bronchial or amphoric breathing, and various râles. Some cases with rather marked pulmonary signs but with evidence of slight toxemia and good resistance will do well, while, on the other hand, a patient with only suspicious chest signs may present symptoms of serious illness.

The greatest difficulty is met in deciding upon what may be termed the border-line cases, many of the moderately advanced and a few of the far advanced stages. The chest findings, indicating moderate consolidation with but slight destruction of tissue, or in the more advanced, a lesion somewhat more extensive than the limits of Turban's second stage, must be carefully considered in conjunction with the constitutional and local symptoms. Special note is also made of age, habits, occupation, environment, and duration of present illness.

Applicants should be between the ages of 15 and 50. If the occupation has been healthful, the environment sanitary, and the personal habits good, a marked and rapid improvement in the Sanatorium cannot be so sanguinely expected, as would be the case were the home conditions less favorable. An elevation of temperature persisting above 100° in the afternoon or evening when the patient is at rest, suggests an unfavorable condition. If other symptoms are slight and the chest signs few, the case may be admitted for trial. When this rise of temperature occurs with pulmonary lesion of advanced type, if the patient is ambulatory, he should be placed at rest at home, or in the nearby hospital. I usually desire a report of temperature and pulse covering a period of two weeks or longer in these cases before deciding upon admission, although, in exceptional instances where the home supervision is

impossible, the patient may be admitted for trial.

An acceleration of the pulse may be one of the very first symptoms in the diagnosis of the incipient, and of much moment in the more advanced cases. If the pulse continues high when at rest, there is an enfeebled heart from some other cause, or a considerable amount of toxemia, either condition in conjunction with advanced pulmonary signs being unfavorable. Dyspnea may suggest a pleurisy, dry or with exudation, a heart lesion, or disseminated pulmonary disease, which a single, perhaps hasty, examination of the chest has not revealed. Loss of weight and strength, if rapid, indicates a serious progress of the disease, unless the patient is still hard at work and under-nourished. Hoarseness and sore throat are symptoms deserving more attention than they usually receive, and require examination of the larynx, when, if we find an interarytenoid growth, a swelling of an arytenoid, infiltration of a ventricular band, or a redness of one of the cords, the outlook may be serious. If the pulmonary lesion is advanced, more than a very slight laryngeal involvement would be considered unfavorably.

Two cases admitted on the same day will illustrate the uncertainty of these more advanced cases and the necessity of expressing some doubt, upon their admission, regarding the length of stay and probable outcome. It is to be expected that anyone wishing to criticise the Sanatorium work will remember only the cases which do badly and forget the remarkable results obtained in others of the same class. These illustrative cases come from the same home, have a positive family history, and show practically the same pulmonary signs, evidence of a moderately advanced lesion. One is a girl 15 years of age; previous history negative; present illness follows grip five months ago; cough has continued during that time with positive sputum. She tires easily; has lost only two and one-half lbs. in weight; appetite and digestion are good; temperature, 99.4°; pulse, 75 at 3 p. m.; there is slight hoarseness and a feeling of "irritation" in the throat; the larynx shows a tuberculous infiltration of arytenoids and ventricular bands, a condition apparently overlooked at home. She did badly and has died since leaving the Sanatorium. The other was a girl, in the words of the examiner, "wirey and nervy," 26 years of age, giving a history of cough for three months with a small amount of positive sputum; two small hemorrhages one month ago; temperature, 100.2°; pulse, 90 at 3 p. m.; appetite and digestion good;

has lost 13 lbs. in weight; moderate weakness; throat normal. She was kept in bed for nearly a month on account of temperature, and after ten months was discharged arrested and has remained in good condition since her discharge.

A comparison of these cases will suggest the possible effect upon prognosis of the age and of a tuberculous laryngitis.

A word regarding results of sanatorium treatment. It must be remembered that our classification requires a three months' residence for the apparently cured cases, and a two months' residence for the arrested case, in the Sanatorium after all constitutional symptoms have disappeared, and the patient feels perfectly well. Many object to this prolonged stay away from home when apparently no further improvement is to be expected, and as a consequence the Sanatorium records appear to be less favorable. During the first eighteen months 90 per cent of the incipient and 70 per cent of the more advanced were discharged as apparently cured, arrested, or improved. The true results of sanatorium treatment can be attested only by time, the older sanatoria publishing encouraging permanency of results, notably in the 24th annual report of the Adirondack Cottage Sanitarium, which presents a most interesting summary of 2,520 cases discharged from 1 to 23 years previously. Of the cases they have been able to trace, 52 per cent of the incipient, 25 per cent of the moderately advanced, and 3 per cent of the far-advanced, have remained well. Although it is too early to apply the test of time to the Sanatorium at Walker it may be interesting to note that during the past few weeks I have received reports from 93 of the 122 cases discharged up to July 1st of this year. These reports are very satisfactory. Of the 9 apparently cured cases, 7 remain the same. Of the 22 arrested cases, 21 have continued to improve or remain the same. Of the 37 improved cases, 18 are the same, 5 are worse, 5 have died, and 9 have continued to improve.

May I repeat that while many of the more advanced will improve greatly, the activity of the process will subside, the disease will become arrested, and the patient trained that he may not only live and work many years, but may be a valuable teacher in his home community, yet the incipient stage offers opportunity for a much larger percentage of satisfactory results; and we should, therefore, endeavor to bring every incipient case in the state under the influence of this sanatorium for the people, if for only a short time, to learn the out-door habit. It is perhaps

unfortunate that the word "cure" is applied to any condition upon discharge, for the patient, having felt absolutely well for three months previous to discharge, as the requirement is, soon forgets the qualifying term, and as he associates at home with friends who are "cured" of typhoid, pneumonia, appendicitis, or other acute conditions, the necessity of continuing the sanatorium routine becomes less apparent, the formerly enjoyed out-door life dims into the distance, and before the two years required to tabulate him as "cured" have passed he has relapsed into a worse condition than before admission. Herein the wisdom, helpful counsel and constant oversight of the family physician plays an important role. Every patient leaving the Sanatorium should place himself again under the charge of the home physician and should report at frequent intervals for encouragement and advice. Many patients, after a short stay in the Sanatorium, are obliged, for various reasons, to continue treatment at home, sleeping out of doors, living regularly, perhaps working, applying to home conditions the lessons learned at the institution. The dispensary and other city agencies may do most excellent work in this line of treatment with individuals and in classes, but I believe we are all agreed that the initial training is more satisfactory at the Sanatorium whence the patient after a short stay may return if necessary to the former environment.

The character of the individual has a great influence upon the course of treatment, for the patient who is cheerful, accepting with a "smiling morning face" the rigid regime of the Sanatorium, co-operating with the physician in carrying out the daily routine, who is determined to get well and adds the mind cure to the other elements of the treatment, will meet far happier and more lasting results than he who is homesick, discontented, disobedient, and wanting grit.

DISCUSSION

DR. A. J. COX (Tyler): I find that a number of my fellow-practitioners have begun to feel somewhat as I feel in the matter, i. e., that this Sanatorium is for well people. Now, it seems to me a physician should have some knowledge of the case before he attempts to send a patient to the Sanatorium. My experience has been with only two cases, but I have heard this remark made by some physicians. In this particular instance, both of my cases were in the incipient stages, had been indisposed for nearly three months, and had slight temperature. They have gone to other sanatoria and are improving, and one is practically well. I felt rather disappointed because I got the cases in the earlier stages of the disease, but I was unable to get them into a place where they might be treated. It seems to me it

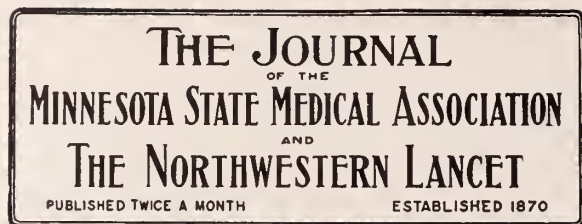
would be wise for this sanatorium, at least, to take them in on trial and give them a chance.

DR. W. J. MARCLEY (Essayist): The cutaneous test is supposed to be a satisfactory test. I usually rely upon the old-fashioned sub-cutaneous test for diagnosis.

I want to say, in behalf of the institution, that we ought not to lose sight of the fact that it is my duty to admit, first, the "earliest" cases that apply, and decision in each case is made upon information received from the examiner; then the more advanced cases are considered. Many of these cases are apparently in the same condition, and delay in admission in some cases is inevitable.

THE TREATMENT OF PULMONARY TUBERCULOSIS BASED UPON THE ASSUMPTION THAT THE DIETETIC CAUSE OF THE DISEASE IS LIME STARVATION—PRELIMINARY REPORT OF RESULTS

John F. Russell of New York reports the results of his treatment of dispensary patients on the theory that the cause of tuberculosis is insufficient lime salts in the food. To supply this need he made use of clotted milk and eggs, and later of milk and eggs mixed with hydrochloric acid. He believes that it is necessary to have in the patient's stomach lime salts, hydrochloric acid, and pepsin ferment, while the pancreatic ferment is working normally. The use of clotted milk brought about a plastic pleural effusion about the location of the tuberculosis, which ended in a cure of the lesion. The patients were taught to expect this and to hail the pleuritic pain as a sign of coming cure. The hydrochloric acid and milk was prepared at the dispensary, where a portion was drunk, and the remainder was taken at home morning and night. The patients were encouraged to continue their work, and rest treatment was not given. An attempt to give more lime salts by the use of ground bone had no results. Lime starvation may be due to absence of gastric juice, or to taking food poor in lime. The hydrochloric acid activates the rennet zymogen and the pepsin zymogen, and stimulates secretion of pancreatic juice. The administration of the acid causes decided improvement of general condition. Illustrated cases are given. The result gave promise of an improvement of treatment of tuberculosis in the home climate.—*Medical Record*, November 27, 1909.



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FEBRUARY 1, 1910

A MEDICAL PRESS AGENT

An effort is now under way to secure the services of a competent newspaper correspondent who will attempt to place before readers of the public press such articles as may interest and instruct the public on medical topics. This will include those subjects that sanitarians and hygienists believe will educate people in caring for themselves and bettering their surroundings. The amount of medical misinformation that is disseminated in newspapers is appalling, and no one knows how much damage may have arisen therefrom. The average reader and many so-called thinkers know so little about rational medical topics that, if some actual scientific information were given them to digest, they would have more respect for the medical profession.

The man who has a smattering knowledge of books and institutions not infrequently unloads his alleged information on a ready listener, and because of his supposed prominence his oral opinions may carry weight.

The people, at least those who really want to know the truth, will welcome reliable in-

struction. A short, snappy, and readable article by one who knows how to write will do much in the way of education. Probably a good many readers would like to know about epidemic cerebrospinal meningitis and the possibilities of a cure by the Flexner serum, what the disease is, how it is caused, and by what means it may be cured.

It is evident, from repeated observations, that many people are more confident about new remedies properly applied than they were a few years ago. Lumbar puncture is not such a formidable operation as has been supposed and, in competent hands, is practically devoid of danger. The use of antitoxin in diphtheria has saved thousands of lives and has prepared the way for other sera. The recent outbreak of epidemic poliomyelitis has awakened the hope that a serum may be discovered, and it has fully demonstrated the willingness of the people to permit lumbar puncture on their children for diagnostic purposes, even though no organisms have been actually or positively demonstrated.

The prevention of preventable diseases is a subject that will bear enlargement and any scientific advice will be greatly appreciated. The subject of personal hygiene can be handled without offense, and, if needed, the common names understood by the common people can be employed.

All matters pertaining to the welfare of communities should be given the widest publication. An attempt should be made to introduce clean methods of handling food-stuffs, vegetable, as well as animal. If the country people could be induced to demand clean meat from clean slaughtering-places and, in turn, to supply clean milk from inspected cattle there would be less sickness of a preventable character.

People should be informed of the progress in sanitation in other localities, in order that they may infuse a stimulus into themselves and their neighbors. The city dweller needs it as much as the man who lives in the country, but the man who lives in the village or on the farm reads his paper more carefully than his brother in the towns and cities. It is possible that good reading matter can be sent broadcast over the state and nearly every country paper will be glad to get "copy" of this kind. This can be accomplished only through the co-operation of the larger city dailies and their correspondents.

A press agent is therefore a necessity and the various state forces can be brought into closer communion only through a business arrangement. No enterprise of this magnitude can be carried on by sentimental means; the matter must be systematized and gathered from authentic sources.

WORK OR REST?

In the January 1st issue of the *Journal of the American Medical Association*, Dr. Hubert J. Hall discusses the work-cure for neuroses and psychoses. The article is an interesting one for the institution man and a suggestive one for the general practitioner. The plan that Dr. Hall has worked out is one of manual training and work for nervous invalids. He suggests that "the tired mind tortures itself with doubts and fears, and spends the long days in useless self-analysis * * * progress toward health being often indefinitely delayed because no occupation is found or even attempted."

The number of neurasthenics, hysterics, and an unclassified number of other neuroses and psychoses, is so great that if they were gathered together they would make a multitude.

The majority of these cases probably need medical attention, and many of them, when convalescent, need occupation of a new sort that will keep busy both their minds and hands. A certain number of nervous people need work only, and if it were legal to discipline them under institutional methods their symptoms would soon disappear. For this special class of neurotics, made up of rounders and shiftless lazy gourmands, Muldoon has always contended that the rest-cure is not only objectionable but unscientific, and he believes, and demonstrates, that well-ordered work or exercise under discipline is the only method of toxin-elimination.

Work that livens up the skin and muscles until sweat and tire are produced is an important factor. This does not embrace the class of those who are inherently unstable, and whose nervous system is tired out by over-taxation; yet, even among these, there are cases that are benefited by occupation.

A change of surroundings, the getting out of the old rut, and a change of mental pictures and impressions, are imperative to ward off a possible chronic invalidism.

The employment of mild work under proper direction would appeal to a certain class of people, and, if an institution of this kind could be made self-supporting, it would attract and accept a class financially unable to bear the expense of hospital or sanitarium life. If this multitude of semi-invalids could be sorted over, a large number would be unceremoniously handed over to the work-cure.

The nervous person who sees only self and cares for no one else, soon becomes a burden to the family and the physician. Unfortunately, the sanitarium habit has grown tremendously, and more and more luxurious quarters are furnished yearly. After a sanitarium residence of a few weeks or months an occupation is a necessity, unless the sanitarium is conducted wholly on a commercial basis.

The nervous invalid needs training and discipline under conservative methods. Then if all means fail the invalid is left to live out his unhappy existence in the home where his presence is unwholesome, or is relegated to a resort or sanitarium where he can sit and think, or simply sit. In carefully selected cases the hard-work cure is the speediest means of cure; in other selected cases the milder forms of exercise and diversifying occupation are the only solution. In the terminal class the members are distributed among the faddists and sanitarium.

Dr. Hall's theory is capable of wider application than may appear on the surface, and every practitioner should keep it in mind. The only difficulty that the general medical man will find is the time needed to devote to these patients. He must realize, also, that certain men are fitted to control, train, and discipline nervous people, and valuable time is lost in the selection of suitable methods of treatment.

THE AUTOMOBILE SHOW

From February 10th to 26th the Minneapolis Armory will be the mecca of all who are interested in automobiles, and the number of such people is astonishingly large, being in nowise confined to present owners of machines. Somehow the automobile has taken a strong hold of the public; and men and women who can scarcely hope to own a machine, and may not even want to own one of the fast-going autos of today, like to look at them. The fact is, a well-built automobile

is a handsome machine, and its ability to go over a mile a minute or over a hundred miles in a day, with perfect ease, is simply fascinating. Then, too, the machine is now recognized, as not hitherto, as a year-around machine. As a matter of fact, it is more indispensable in winter than in summer, for in summer one can get about with horses or on the street-car without discomfort, while this cannot be done in the winter; and so we now see that a mere pleasure machine has become a means of travel that gives both speed and comfort, even to the point of protecting one's health to a marked degree.

All these points give added interest to the present show; and, no doubt, the managers will bring together a display of cars and accessories that will interest and instruct both the fellow with and the fellow without a machine, and also the fellow with and the fellow without a hope of owning one.

BOOK NOTICES

MODERN CLINICAL MEDICINE: DISEASES OF CHILDREN. Edited by Abraham Jacobi, M. D. Authorized translation from "Die Deutsche Klinik" under the supervision of Julius L. Salinger. Cloth, pp. 848. D. Appleton & Co., New York and London, 1910.

Like other systems of medicine, this book is written by many authors, and as such shares in the defects which are inherent in every collective system of medicine. It is fortunate, however, in that its contributors, without exception, are men of marked ability, and each chapter may be looked upon as a separate monograph on the subject of which it treats.

Almost always the subject under consideration is treated fully, though concisely, and practically everything worth mentioning is here found in well-balanced proportion.

Among so many excellent contributions it is difficult to find any that deserve special commendation, particularly as the editor himself has not felt equal to this task. The translation has been well done, and the German has been transformed into very readable English, a condition of affairs by no means always found in translated books.

Dr. Jacobi, as editor, has found it necessary to add but little to the original, though one

cannot but feel that it would have been helpful if he had included some mention of the most recent additions to pediatrics, such, for example, as the recent advances in the knowledge of poliomyelitis.

Throughout the book there is frequent reference to the original contributions of individual men, and the work concludes with an index of authors, as well as of subjects, but in the list of writers, one looks in vain for any proper recognition of the work done on this continent.

A HANDBOOK OF MEDICAL DIAGNOSIS. By J. C. WILSON. Cloth, pp. 1435. Fourteen full-page plates and 408 illustrations. J. B. Lippincott Co., Philadelphia and London, 1909.

The great and constantly increasing growth in the methods of diagnosis, together with the advances in the classification and knowledge of diseases and symptoms-complex, is such as to soon render unsatisfactory the very best works on the diagnosis of a given period. On this account there is always found a need for new treatises on this subject, and they have come from the press rather frequently in recent years.

As a successful teacher and practitioner of many years standing, Dr. Wilson is well qualified to present a book on diagnosis, and with the aid of several colleagues in special subjects he has prepared a valuable book. It is divided into four parts, and the entire subject, both in its clinical and its laboratory phases, has been included. Part I is given over to medical diagnosis in general, including a good chapter on case-taking and the immediate examination of the patient. In Part II the methods of diagnosis and the immediate results are considered, and in Part III symptoms and signs with their meanings receive full treatment. Part IV, which makes up considerably more than half the book, is devoted to special diseases and their diagnostic signs and symptoms, and the differential diagnosis of each is considered separately.

The illustrations are largely new and are well chosen, being commendable alike for their number and their quality.

DORLAND'S AMERICAN ILLUSTRATED MEDICAL DICTIONARY. A new and complete dictionary of terms used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry, Nursing, and kindred branches; with new and elaborate tables and many handsome illustrations. Fifth re-

vised edition. By W. A. Newman Dorland, M. D. Large octavo of 876 pages, with 2,000 new terms. Philadelphia and London: W. B. Saunders Company, 1909. Flexible leather, \$4.50 net; indexed, \$5.00 net.

Dr. Dorland's work is not an encyclopedic dictionary, but one that defines words briefly, yet comprehensively. It is a working dictionary, and it is very free from padding. It is one of three dictionaries, of about equal size, that have won recognition from the profession, but we believe it is used a dozen times as much as either of the other two. It has been used almost exclusively in this office for a number of years, and we rarely find it failing to meet our needs in any respect.

The present edition shows that a genuine revision of the work has been made with additions amounting to over one hundred pages.

The book is gotten up in admirable working form, and it is always a pleasure to refer to it.

MEDICAL SOCIOLOGY. A Series of Observations Touching upon the Sociology of Health and the Relations of Medicine to Society. By James Peter Warbasse, M. D., Surgeon to the German Hospital. Cloth, pp. 355. Price, \$2.00. New York: D. Appleton and Company, 1909.

In this book Dr. Warbasse has presented some very interesting observations, both to the lay reader and to physicians themselves. Believing that that man who knows most about his body will care best for it, the author advocates a wide diffusion of medical knowledge among the public and has prepared interesting chapters on such subjects as, the alcohol question, the venereal peril, sexual morality and the state, exercise and health, and life insurance interests. Osteopathy, Christian Science and the Emmanuel Movement also receive a fair share of attention.

The second portion of the book is devoted to those subjects which are of special value to the medical man. It covers a wide range of topics, and affords the means of passing several very pleasant, as well as instructive, half-hours. Co-operation among physicians is strongly urged, and the author points out how, even in small communities, physicians may, by each contributing a proper and modest share, build up a satisfactory library. The evident desire of the author is not only to bring the public and the medical profession into a more intelligent relationship with each

other, but to bring about a better understanding between physicians themselves.

THE PRINCIPLES AND PRACTICE OF MEDICINE. By Wm. Osler, M. D. Seventh Edition. Cloth; pp. 1143. New York and London: D. Appleton and Co., 1909.

It seems scarcely necessary to call attention to Dr. Osler's well-known text-book on the practice of medicine. Already widely known, it has, since the appearance of the sixth edition, been translated into French and German and translations into Spanish and Chinese are now under way. Like each of its predecessors this edition has been brought thoroughly up to date, and in this respect as well as in many others, it stands as a model for every text-book maker.

Such recent advances as the work of the New York Pneumonia Commission, the splendid work at Panama and in the Philippines, the stamping out of Malta fever by the British army and navy surgeons, the recent work on epidemic cerebrospinal meningitis and on poliomyelitis are all carefully considered and incorporated into the book. Even faith-healing receives its share of attention.

REPORTS OF SOCIETIES

GOODHUE COUNTY ASSOCIATION

The Association held its annual meeting on June 4th, at Dr. F. W. Dimmitt's office in Red Wing. The following officers were elected for the ensuing year: President, Dr. F. W. Dimmitt; vice-president, Dr. A. W. Jones; secretary and treasurer, Dr. A. T. Conley; censor for three years, Dr. M. H. Cremer; delegate, Dr. H. E. Conley; alternate, Dr. J. V. Anderson.

There was a lengthy discussion on establishing a tuberculosis hospital at Zumbrota. A committee consisting of Drs. G. C. Wellner, M. W. Smith, and A. T. Conley was appointed to correspond with the medical societies of Wabasha, Dodge, and Rice Counties to interest them in co-operating with Goodhue County to establish and maintain this hospital.

Dr. A. W. Jones read a most interesting paper on "An Unworked Field of Preventive Medicine."

The society by an unanimous vote requested Dr. Jones to send his paper to THE JOURNAL-LANCET for publication. Dr. Anderson read a very humorous paper on "Reminiscences of

my European Trip." A number of papers had to go over for the April meeting.

The Goodhue County Medical Association has twenty-three members, fourteen of whom were present.

A. T. CONLEY, M. D., Sec.

UPPER MISSISSIPPI SOCIETY

The Society met at Brainerd on Jan. 11th, with twenty-one members and four visitors present.

Papers were read as follows: "Chronic Constipation," by Dr. McKinnon, Wadena; "Clinic and Demonstration, May's Pharyngoscope," by Dr. C. F. Coulter, Wadena; President's Annual Address, by Dr. O. T. Batcheller, Brainerd; Clinic, by Dr. W. Courtney at the N. P. Hospital.

Officers for 1910 were elected as follows: President, Dr. F. H. Knickerbocker, Staples; vice-president, Dr. Wm. Reid, Deerwood; secretary, Dr. G. H. Lowthian, Akeley; treasurer, Dr. Paul E. Kenyon, Wadena; censor for three years, Dr. J. G. Millsbaugh, Little Falls.

The next meeting to be held in Wadena.

G. H. LOWTHIAN, M. D., Secretary.

WASHINGTON COUNTY SOCIETY

The Society met at Stillwater, on Jan. 11th, with eight members present.

A paper was read on "Some Elements Conducive to Success in Gastro-intestinal Surgery," by Dr. A. E. Benjamin, Minneapolis.

Dr. F. E. Mingo, of Hugo, was elected as an active member, and Dr. W. H. Pratt, of Stillwater, as an honorary member.

Officers were elected for the current year as follows: President, Dr. W. R. Humphrey, Stillwater; 1st vice-president, Dr. G. H. Burfiend, Afton; 2d vice-president, Dr. D. Kalinoff, Stillwater; secretary-treasurer, Dr. F. G. Landeen, Stillwater; censor for three years, Dr. T. C. Clark, Stillwater; censor for one year, Dr. E. O'B. Freligh, Stillwater.

F. G. LANDEEN, M. D., Secretary.

PARK REGION DISTRICT AND COUNTY SOCIETY

The Society met at Fergus Falls, on Jan. 12th, with fifteen members present.

Dr. Charles R. Ball, of St. Paul, read a paper on "Acute Anterior Poliomyelitis." This address was both very interesting and in-

structive and was followed by a very enthusiastic discussion.

The following were elected to office for 1910: President, Dr. J. G. Vigen, Fergus Falls; 1st vice president, Dr. A. M. Randall, Ashby; 2d vice-president, Dr. W. L. Burnap, Pelican Rapids; secretary-treasurer, Dr. L. A. Davis, Dalton; delegate, Dr. L. A. Davis, Dalton; alternate, Dr. C. W. Meckstroth, Brandon.

L. A. DAVIS, M. D., Secy.

NEWS ITEMS

A new hospital has just been opened at Rugby, N. D.

Dr. Hageman's hospital at Anoka has been reopened.

Dr. F. Gramenz has moved from Menahga to Wheaton.

Dr. C. E. Hamel has moved from Duluth to McIntosh.

Dr. C. H. Denniston, of Crookston, has moved to Medford, Oregon.

Dr. C. H. Tasker, of Minneapolis, died last month at the age of 60.

Dr. J. B. Tyrrell, of Waterville, has moved to Laramie, Wyoming.

Dr. Roy V. Rogers has moved from Bottineau, N. D., to Kremer, N. D.

Dr. Jos. P. Wyrens has moved from Dickenson, N. D., to Taylor, N. D.

Dr. A. H. Schwartz, of Duluth, is soon expected home from his European trip.

Dr. O. H. Wolner, of St. Cloud, and Miss Vera Miller, of Sauk Rapids, were married last month.

Dr. David McLain, of Jamestown, N. D., was married last month to Miss Jennie Graves, of Chicago.

Dr. John G. Havens, of Cloquet, was married last month to Miss Gertrude May Foster, of the same place.

Dr. Glen Yeamans, of Watertown, S. D., was married last month to Miss Mildred Korn, of Tracy, Minn.

Dr. Henry D. Diessner, of Chaska, was married last month to Dr. Bertha G. Newkirk, of Minneapolis.

The physicians of Pierre, S. D., have revised their schedule of charges, adopting a charge in force some years ago.

Dr. A. H. Burns, house physician at the More Hospital, Eveleth, has resigned, and will resume practice at Hutchinson.

Drs. George Earl and R. B. J. Schoch, of St. Paul, have been appointed assistants to Coroner Jones of Ramsey County.

Dr. P. M. Fischer, of Remus, Mich., has come to Shakopee to enter into partnership with his brother, Dr. H. P. Fischer.

Dr. C. A. Scherer has sold his practice at Ruthton to Dr. Arneson, of Balaton, and will go to Washington, D. C., to do post-graduate work.

A new hospital, with a building costing \$150,000, has just been opened at Riverside, Manitoba. It is said to be the best equipped hospital in Canada.

Medical examination in the Duluth schools has proved so successful that it will be adopted as a permanent policy of the Board of Education.

Dr. Evans E. Brubaker, of Northfield, died last month at the age of 58. He had practiced in Northfield just twenty-six years on the day before he died.

Dr. George W. Kirmse, of Minneapolis, has moved to Frazee, and become associated with Dr. E. R. Barton, under the firm name of Drs. Barton & Kirmse.

The Sixth District Medical Society of North Dakota went on record at its meeting last month at Bismarck, as favoring inspection of school-rooms and school children.

The Inter-State Medical Club met at Breckenridge last month, and elected officers for 1910 as follows: President, Dr. T. O'Brien; vice-president, Dr. N. F. Doleman; secretary, Dr. C. P. Rice; treasurer, Dr. L. M. Armstrong.

Dr. P. C. Pilon, of Paynesville, has returned from a visit to the hospitals of the East and has re-opened his own hospital, with Miss Charlotte Schmidt, a graduate of the Minneapolis City Hospital, in charge, as superintendent.

The Black Hills Medical Society of South Dakota met last month at Deadwood, S. D., and elected officers as follows: President, Dr. J. W. Freeman, Lead; vice-president, Dr. F. S. Howe, Deadwood; secretary, Dr. W. F. Vercoe, Lead.

Tag-day furnished enough money in St. Paul to establish a tuberculosis sanatorium for the city. The building cost \$10,000 and the furnishings \$1,500. The building will accommodate thirty patients. Dr. H. L. Taylor is the medical director.

Three internes are to be elected this month to serve in the State University Hospital. They will be elected from members of the senior class or from graduates of the State University of not more than three years' standing. Two services will begin this month and one in July. The service is for eighteen months. Applications should be made at once to Dean F. F. Westbrook.

PHYSICIANS LICENSED AT THE JANUARY (1910) EXAMINATION TO PRACTICE IN MINNESOTA

UPON EXAMINATION

Alvig, Otto Edvin,	Royal Karolinska Medico-Chir. Inst., Sweden, 1898
Barney, Leon Ambrose,	U. of Minn., 1909
Beede, Ethel R.,	U. of Minn., 1909
Brady, Philip J.,	Jefferson Med. Col., 1909
Evarts, Arrah B.,	Hamline, 1909
Gelz, John James	Hamline, 1909
Gothé, Ludwig Wilhelm,	Georg-August-Universität, Gottingen, Germany, 1889
Kells, Oakford Allen,	Columbia, N. Y., 1909
Leslie, Arthur C.,	Hahnemann, Pa., 1904
Mullin, Robt. Hyndman,	U. of Toronto, 1902
Pearsall, Robt. Percy,	Rush, 1902
Robertson, Archibald Wright,	U. of Minn., 1909
Robertson, Harold Eugene,	U. of Penn., 1905
Rowe, Wm. Henry, Jr.,	Rush, 1909
Smith, Thaddeus D.,	Syracuse, 1903
Stewart, Alexander	McGill, 1909

BY RECIPROCITY

Beach, Wm. Henry	Northwestern, 1907
Beach, Wm. Henry,	Northwestern, 1907
Bremken, Arthur,	P. & S., Chicago, 1900
Buchanan, John Mc.,	Miami Med. Col., 1886
Clark, Chester H.,	U. of Missouri, 1904
Conner, Wm. Henry,	Northwestern, 1908
Dewey, Geo. W.,	Milwaukee Med. Col., 1896
Fleischhauer, David Simon,	Cornell, 1899
Helland, Gustav M.,	Marquette U., 1908
Keene, Lindwood M.,	Bowdoin (Me.), 1904

PHYSICIANS LICENSED AT THE JANU-
ARY (1910) EXAMINATION TO
PRACTICE IN NORTH DAKOTA

Critchfield, L. R.,	Steele
Gusteson, E. V.,	Osnabrock
Hamilton, C. S.,	Colegate
Lancaster, W.,	Powder Lake
MacPherson, G. A.,	Rugby
Moezotin, H. E.,	Ruso
Plant, G. H.,	Judd
Smith, O. M.,	Manning
Soley, L. A.,	Neeche
Stobie, Robt. H.,	Tioga
Distard, Oliver E.,	Williston
Eicher, W. C.,	Underwood
Nichols, W. E.,	Fargo
Nordly, F. A.,	Rollette

A \$4,500 cash practice with small drug stock in small town in western Minnesota for sale at what the drug stock invoices, which is probably \$400. Good country; no other drug store; no competition nearer than ten miles. Best of references. Reason for leaving is that I have purchased a practice in a larger town. I have been located here six years. Address H. A., care of this office.

Well-lighted office with telephone and attendants in suite with Drs. J. E. Moore and J. Clark Stewart, in the Pillsbury Bldg., Minneapolis.

Location in Minnesota is wanted by a Minnesota graduate, regular school. Has had experience in a country practice, and is capable of handling a gilt-edge proposition if terms suit. Or will accept position of locum tenens for a few months. Address, S. R., care of this office.

Doctor, if you want practical postgraduate work during fine season in the delightful city, write for particulars. New Orleans Polyclinic, P. O. Box 797, Postgraduate Dep't., Tulane Med. College.

DEATHS REPORTED TO THE STATE BOARD OF HEALTH
OF MINNESOTA FOR THE MONTH OF NOVEMBER, 1909

REPORTED FROM STATE INSTITUTIONS FOR MONTH OF NOVEMBER, 1909

STATE INSTITUTIONS.		Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Acute Anterior Polio Myelitis	Typhoid Fever	Diarrheal Diseases of Children	Cancer	Puerperal Septicemia
Fergus Falls, Hospital for Insane	11	3	1										1			1
Rochester, Hospital for Insane	10	1														
St. Peter, Hospital for Insane	5															
Anoka, Asylum																
Hastings, Asylum	1															
Faribault, School for Deaf																
Faribault, School of Blind																
Faribault, School for Feeble Minded							1									
Owatonna, School for Dependents	8	2														
Stillwater, State Prison																
St. Cloud, State Reformatory																
Red Wing, State Training School																
Minneapolis, Soldiers' Home	5															
Totals	40	6	1		1								1			1

REPORTED FROM 72 CITIES HAVING A POPULATION OF 1,000 OR UPWARDS

FOR THE MONTH OF NOVEMBER, 1909

CITIES.	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Acute Anterior Polio Myelitis	Typhoid Fever	Diarrheal Diseases of Children	Cancer	Puerperal Septicemia
Albert Lea	4,500	5,657	2					1						1			
Anoka	3,769	4,053	6														
Austin	5,474	6,489	1										1				
Barnesville	1,326	1,566	0														
Bemidji	2,183	3,800	10		1									1	1		
Blue Earth	2,900	2,364	0														
Brainerd	7,524	8,15	9					1						3			
Chaska	2,165	2,085	1														
Chatfield	1,426	1,300	0														
Cloquet	3,074	6,117	4		2									2			
Crookston	5,359	6,794	6		1								1	1			
Detroit	2,060	2,149	6	1									1			1	
Duluth	52,968	64,942	76	7	1	6		3		1				3	4	4	
East Grand Forks	2,077	2,48	4						1							1	
Ely	3,712	4,045	3	1		1											
Eveleth	2,752	5,332	1		1												
Faribault	7,868	8,279	7	2													
Fairmont	3,440	2,955	1														
Fergus Falls	6,072	6,692	2														
Granite Falls	1,214	1,340	*														
Hastings	3,811	3,810	1													1	
Hutchinson	2,495	2,489	4	1													
Jordan	1,270	1,311	2											1			
Lake City	2,744	2,877	1														
Litchfield	2,280	2,415	3	1													
Little Falls	5,774	5,856	3														
Luverne	2,223	2,272	0														
Le Sueur	1,937	1,842	0														
Madison	1,336	1,604	1														
Mankato	10,559	10,996	10	2									1				
Marshall	2,088	2,243	0														
Melrose	1,768	2,151	1														
Minneapolis	202,718	261,974	238	30	1	29	1	14	1				4	3	9	12	1
Montgomery	979	1,281	0														
Montevideo	2,146	2,595	2													1	
Moorhead	3,730	4,794	4														
Morris	1,934	2,003	1														
New Prague	1,228	1,419	1														
New Ulm	5,403	5,720	6											1		2	1
Northfield	3,210	3,438	4	1													
Ortonville	1,247	1,612	1														
Owatonna	5,561	5,651	2														
Pipestone	2,536	2,885	0														
Red Lake Falls	1,885	1,797	1														
Red Wing	7,525	8,149	7	2													1
Redwood Falls	1,661	1,806	0														
Renville	1,075	1,229	3													1	
Rochester	6,843	7,233	22	2	1											4	
Rushford	1,100	1,133	1														
St. Charles	1,304	1,238	2			1											
St. Cloud	8,663	9,422	7	2													1
St. James	2,607	2,320	1					1									
St. Paul	163,632	197,323	186	16	3	16	1	21	4				2	4	14	9	1
St. Peter	4,302	4,514	1														
Sauk Centre	2,220	2,463	5	1													
Shakopee	2,046	2,069	1														
Sleepy Eye	2,046	2,312	1														1
South St. Paul	2,322	3,458	7						2								
Stillwater	12,318	12,435	8											1		1	
Thief River Falls	1,819	3,502	*											1			
Tower	1,366	1,340	*														
Tracy	1,911	2,015	1														
Virginia	2,962	6,056	13					3						5	1		
Wabasha	2,528	2,619	1														
Warren	1,276	1,640	6											3		1	
Waseca	3,103	2,838	0														
Waterville	1,260	1,383	3			1											
West St. Paul	1,830	2,100	1			1											
Willmar	3,409	4,040	3	1													
Winom	1,944	1,884	3			1											
Winona	19,714	20,334	14					1								2	
Worthington	2,386	2,276	0														

*No report received. Health officer not doing his duty.

REPORTED FROM 65 VILLAGES HAVING A POPULATION OF 1,000 OR UPWARDS

FOR THE MONTH OF NOVEMBER, 1909

VILLAGES.	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Acute Anterior Polio Myelitis	Typhoid Fever	Diarrheal Diseases of Children	Cancer	Puerperal Septicemia
Ada	1,253	1,515	0														
Adrian	1,258	1,184	0														
Aitkin	1,719	1,896	0														
Akeley		1,636	0														
Alexandria	2,681	3,051	4														
Appleton	1,184	1,321	2														
Belle Plaine	1,121	1,301	4	1											1		
Benson	1,525	1,766	0														
Breckenridge	1,282	1,850	2														
Buffalo	1,040	1,124	*														
Caledonia	1,175	1,405	4			1											
Canby	1,100	1,505	1														1
Cannon Falls	1,239	1,460	1			1											
Cass Lake	546	1,062	*														
Chisholm		4,231	6			4											
Dawson	962	1,056	0														
Delano	967	1,023	1														
Fosston	864	1,000	0														
Frazee	1,000	1,146	0														
Glencoe	1,780	1,805	2														
Glenwood	1,116	1,718	*														
Graceville	856	1,032	1			1											
Grand Rapids	1,428	2,055	*														
Hallock	805	1,014	2														
Hibbing	2,481	6,566	9		1	2									2		
Jackson	1,756	1,776	2														
Janesville	1,254	1,205	0														
Kasson	1,112	1,049	0														
Kenyon	1,202	1,252	1	1													
Lake Crystal	1,215	1,221	0														
Lanesboro	1,102	1,041	1							1							
Long Prairie	1,385	1,256	3	1		1											
Madelia	1,272	1,290	1														
Milaca	1,204	1,319	0														
Mountain Lake	959	1,063	0														
North Mankato	939	1,129	1					1									
North St. Paul	1,116	1,400	1														
Olivia	970	1,019	0														
Osakis	917	1,056	0														
Park Rapids	1,313	1,719	1														
Pelican Rapids	1,033	1,095	0														
Perham	1,182	1,366	5														
Pine City	993	1,092	2														
Plainview	1,038	1,140	2														
Preston	1,278	1,320	0														
Princeton	1,319	1,704	1														
Rush City	987	1,041	0														
Rushford	1,062	1,040	0														
St. Louis Park	1,325	1,491	0														
Sandstone	1,189	1,589	*														
Sauk Rapids	1,391	1,552	1														
Scanlon		1,122	1														
South Stillwater	1,422	1,572	0														
Springfield	1,511	1,546	2														
Spring Valley	1,770	1,573	*														
Staples	1,504	2,163	1														
Two Harbors	3,278	4,402	2												2		
Wadena	1,520	1,868	0														
Wells	2,017	1,814	*														
West Minneapolis	2,250	2,530	3					1									
Wheaton	1,132	1,346	2				1										
White Bear Lake	1,288	1,724	1														
Winnebago City	1,816	1,553	0														
Winthrop	813	1,031	0														
Zumbrota	1,119	1,129	0														
State Institutions			40	6		1		1						1			
Other parts of State	1,012,328	1,085,886	603	40	6	46	4	10	3		1	3	10	11	21	46	1
Total for State	1,751,395	1,979,658	1441	120	14	119	8	58	12	1	1	4	20	46	51	89	8

*No report received. Health officer not doing his duty.

145 Still births and premature births, not included in above totals.



HILL CREST SURGICAL HOSPITAL

501 West Franklin Ave.

MINNEAPOLIS, MINN.

J. WARREN LITTLE, M. D.
Surgeon

CHARLES G. WESTON, M. D.
Gynecologist

ARCHA E. WILCOX, M. D.
Surgeon

FRANK C. TODD, M. D.
Eye, Ear, Nose, and Throat

Cheerfulness, comfort of patients, attractive arrangement, facilities for the preparation of particular diets, in addition to the very latest and most complete surgical equipment, seem to have been the ideals toward which the owners and builders of Hill Crest Surgical Hospital have striven.

The institution has been open for operation since January 25th.

The completion of the hospital represents the results of considerable experience, coupled with constant, arduous, and thoughtful planning, and the profession will be interested to observe what has been accomplished in the erection of this hospital.

The hospital is incorporated, and the officers of the incorporation also comprise the staff.

The purpose of the institution is primarily for the care of the individual patient, and to provide a practical plant whereby the staff may institute and accomplish, through system and equipment, the most ideal results.

Minneapolis has been rightfully called "the city of beautiful homes," and almost in the heart of one of the best residence districts Hill Crest Hospital is located. Situated upon the summit of the highest part of Franklin Ave., one of the main streets leading to the magnificent park system of lakes, the hospital commands a restful and interesting view of that portion of the city known as Sunnyside. The location, while being well away from manufacturing districts and noisy carlines, is only fifteen minutes ride from the center of the city.

The building is L-shaped, facing upon Harriet Ave. on the East, and Franklin Ave. upon the North. The grounds being spacious, an uninterrupted southern exposure insures sunshine in nearly every room during the entire day.

In general, the building consists of two stories and a basement, the latter in reality gives the appearance of a complete story, as the gentle slope of the grade-line, west and south, reaches a level of the basement floor at either extremity of the building, which, with the construction of properly placed windows, gives ample light to the many utility-rooms in this department.

The construction is plain but not severe, and is composed of red brick solid walls. As the building line is the same as that of the surrounding dwellings, the passer-by gets no hint of the purpose for which the building is intended, nor is anything unpleasant suggested to the patient who is about to enter.

In addition to the main floor plan, a spacious addition, two stories high, adjoining the southern wing, affords, below, the carriage entrance, and, above, directly off the main first floor corridor, a large solarium for the convalescents' use.

The main Franklin Ave. entrance leads directly into a roomy plate-glass vestibule, the inner partition of which closes off the hospital corridor from the entrance to the office and reception-room on the left.

Entering the main corridor of the first floor, the west and east wings comprise the single and double rooms, suites with private baths, diet-kitchen, two wards of

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four beds each, surgical dressing-room, ward-lavatory, and locker-room. In the extreme end of the west wing, closed off from the corridor, several beautiful rooms constitute the obstetrical suite.

The east corridor leads directly to the glass solarium.

The second floor is practically a duplication of the first, except that that portion over the obstetrical suite comprises the two operating-rooms, sterilization-rooms, laboratory, and recovery-room. The corridor of the east wing of this floor leads directly out upon the roof-garden over the solarium.

A broad stairway winds around the solid brick elevator-shaft leading to the basement. Here the main kitchen, nurses' quarters, helpers' rooms, laundry, store-rooms and sewing-rooms are located, and seven feet below this level the sub-basement, constructed of solid concrete, contains the heating-plant, the high-pressure sterilization-boiler, and the vacuum-cleaning machinery. The ash and coal bins are also constructed of concrete and are underground and away from the building proper, thus lessening the amount of dust, dirt, and noise from this source.

Among the special features may be mentioned the office, where all hospital business is conducted; a new index filing-system for the care of case and history charts for scientific use, and, in addition, a modern business system of all hospital accounts and affairs. An unusual feature here also is the switchboard connecting, not only all the departments by telephone, but, in addition, each room is equipped with telephones, and every room may be put in communication with any other room or with any station outside the building.

The wide corridors and doors of the rooms and wards make feasible the transportation of patients from one department to another, as all the beds are mounted upon rubber-tired wheels, which obviates the necessity of using stretchers, unless otherwise desired. A number of beds are also constructed with low head-rails, which makes it practical to operate upon certain eye-cases without placing the patient upon a specially constructed table. There are also other mechanical beds for certain surgical conditions, where various positions of the patient can be maintained without discomfort.

Cheerfulness is the keynote of the color decorations. The interior finish is of birch stained a soft brown, the walls being a brown shade and the ceilings of ivory. The private rooms vary in tints, some are of old rose, light greens, faint yellows, and pale blues with ivory ceilings. The woodwork of the rooms is walnut stain in some instances and white enamel finish in others, while the wards are treated with spotless enamel woodwork and yellow tinted walls. The furniture of the wards is white enamel throughout in keeping with the decorations.

Quiet is maintained by several methods. First, all walls and floors have been deadened by a generous treatment of special felt for this purpose. The elevator is of the hydraulic type, therefore quiet in operation, while in place of the usual electric call-bells the Sturm signal-system has been installed in all rooms and wards. This system consists of a red signal light over the door of the room, which, when lighted by the patient pressing a button of the extension cord at the head of the bed, also lights a pilot-light over the nurse's desk, and the same remains lighted until the nurse turns off the current in the patient's room. The corridors are

covered with heavy dark-brown carpet, thereby deadening the sound of footsteps.

The comfort and convenience of patients are looked after further in the furnishing of the rooms. Portable lights in each room with appropriate shades, eliminate the glare of fixed electric-light fixtures. These lights may be placed anywhere in the room, serving as a reading-lamp hung upon a bracket at the head of the bed, or used as an extension-lamp by the surgeon for dressings or examinations. Each room is further provided with portable telephone and electric fans, the latter a luxury, both in summer and winter.

The ventilation of the building is of the indirect and direct type and is complete throughout the building. In addition to the general sanitary construction of the building, the vacuum-cleaning apparatus installed in the sub-basement is of great assistance in maintaining cleanliness in a dustless and odorless manner.

The diet-kitchens on each floor are connected with the main kitchen in the basement, which makes it possible to quickly prepare special orders.

The plumbing and vapor-heating systems represent the latest designs, and many new and novel fixtures have been installed.

The operating-rooms are particularly beautifully finished and lighted. The larger room, situated on the north side, is for general surgery, and has adjoining it the surgeons' dressing-room and lockers, also on the south side the sterilization-room, which is the connecting link to the smaller operating-room to be used particularly for eye, ear, nose, and throat work. These three rooms, with the adjoining pathological laboratory, make a suite of individual completeness and convenience.

The plot of ground upon which the hospital is located is to be treated the coming spring to develop a particularly attractive garden, surrounded by appropriate shrubbery, and the adjoining dwelling has been purchased, and will eventually become the home for the nurses.

The present building has a capacity of thirty-seven patients.

The builders of this model institution are to be congratulated upon the completeness and detail of construction, its attractive appearance, and convenience of arrangement; and the query naturally follows, What will be the rates? We are glad to be able to answer that they are the same as those of the semi-public institutions of the Twin Cities.

PUBLISHER'S DEPARTMENT

HOSPITAL BEDS, CHAIR-BEDS, AND BEDDING

If our readers are not aware of the recent improvements in the line of hospital goods named in the above caption, they will be greatly surprised and, if interested, greatly gratified to know that within a very short time mechanical genius has done away with all of the objectionable features of the old-time bed, bed-spring, mattress and hospital stretcher; and there is now manufactured in Minneapolis a line of these goods which are making their way into the best hospitals of America and are going abroad. Let us glance at them slightly in detail.

First, there is a hospital bed made of iron, with enamel finish, and not one crack or joint to harbor dirt.

Furniture Satisfaction

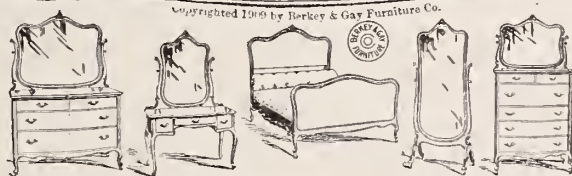
There is a satisfaction that cannot be expressed in dollars and cents, in the possession of beautiful furniture.

We are showing a splendid assortment of Berkey & Gay furniture for the bed-room, dining-room and library. Furniture pure in design to the period it represents, made in mahogany, crotch mahogany, circassian walnut and oak.

Louis XV, Louis XVI, Sheraton, Chippendale and the famous Flanders. We show over 2000 pieces of Berkey & Gay furniture alone, many on our floors, the balance by means of a magnificent portfolio of photogravures.

As a protection to the customer, both in the purity of the design and the perfection of the workmanship, every piece of Berkey & Gay furniture has a shop mark inlaid. Behind it is our recommendation and the guarantee of the oldest and largest furniture factory in the country.

Our lines were never more complete, our prices never more attractive. A visit to our store at this time will repay you.



It is mounted on rubber-tired wheels, five or six inches high, and may be pulled, with its bedding and patient, around the hospital with the greatest ease.

Second, an equally dust-free steel fabric supplants the old-style bed-spring, giving the patient a bed to lie upon which gives comfort where discomfort has always been the rule.

Third, the cotton-felt mattress. Cotton felt was first introduced at a very high price by the Ostermoor Company, but it is now much improved and sells at a very moderate price. It has practically supplanted curled hair, and it is much more comfortable and even more sanitary.

Fourth, the chair-bed. This is a combined bed and chair and, when occasion demands, an operating-table. It is similar to the enameled steel bed above described, being mounted on rubber-tired wheels; but it is more. It can be changed in a moment into an invalid's chair, and the patient may be put into many positions, either

for comfort or examination. Among these is the Fowler position; and this is the only chair-bed capable of the adjustment.

All of the above goods are made by the Minneapolis Bedding Company, manufacturers of a line of beds, bed-springs and mattresses especially designed for hospitals; and these goods are sold at prices that will surprise physicians and surgeons accustomed to paying the high prices of specialties. In fact, we doubt whether the smallest order for such goods can be purchased anywhere at prices lower than the Company offers, even though very inferior goods be bought. They furnished all the beds, springs, mattresses, and chair-beds in the Hill Crest Hospital.

The Company deals direct with hospitals, and they will be glad to correspond with any physician who needs anything in their line, or they will be better pleased to have the physician visit their show rooms and factory.

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FURNITURE SATISFACTION

We hope, for our readers' benefit, that they will not overlook the announcements made by the New England Furniture & Carpet Company in our advertising columns. In this issue they speak of "Furniture Satisfaction." Surely, all will agree that a poor purchase of an article of house or office furniture, which may greet one many times a day, is a source of irritation so long continued and so oft repeated that the most indifferent will become irritated both at himself and the dealer. On the other hand, an article of this kind may become to one a source of great satisfaction.

If the above be true, is it not worth while to read such announcements as this Company makes, and to visit their immense stock of furniture, carpets, rugs, and other household and office furnishings, to see what may become to one a source of great satisfaction.

TENTS—GOOD AND POOR

In a few weeks from now tent-life will be in the minds of many, both among those who are sick and those who are well; and so we have a word on good tents and poor tents.

It is a very dangerous proceeding to put an invalid into a poor tent, and a tent may be poor in the quality of its material, in its lack of ventilation, etc. It is also quite as bad to put anyone unaccustomed to out-of-door life into such a tent.

We are glad to be able to tell our readers where the best tents can be had, whether for ordinary tenting life or for the use of invalids.

The American Tent and Awning Company of Minneapolis and St. Paul make only high-grade tents, not necessarily expensive, but tents of quality. Their sanitary tent, made upon the specifications of Dr. Henry Ulrich, is probably the best tent for all round purposes, including use for invalids, made in the country. Dr. Ulrich made a long study of the subject and produced a tent that has met the commendation of experts.

This Company also makes a window-tent for the use of nervous and tuberculous patients which is highly recommended by medical men. The Company will be glad to correspond with physicians or their patients who may want any kind of tent and at a moderate price.

DREER'S GARDEN BOOK—1910

The seventy-second annual edition of Dreer's Garden Book is before us, and it would be only faint praise to say that it is the best of the floral and garden catalogues. Its many cultural notes, brief but comprehensive, furnish just the information that is needed by every one who is not an expert in gardening and horticulture. Often one of these brief notes is better than a whole chapter in some books. They furnish just the information that the amateur wants; and they cannot fail to prevent many a dismal failure in both the flower and the vegetable garden.

But this Garden Book has something back of its descriptions and illustrations of flowers and vegetables; and one who has dealt with Dreer knows that he will get seeds true to their type. It is one thing to produce exquisite flowers and fine vegetables under the supervision of experts with every possible facility at their command; and it is quite another thing to produce these fine things from the seeds some houses send out,

and do it in the open garden. The writer is a user of Dreer's seeds, and his flower and vegetable beds last year were the envy of his neighbors, some of whom considered themselves experts. Dreer's seeds received, and justly so, most of the credit.

This beautiful Garden Book will be sent to anyone who desires it. Address a postal card to Henry A. Dreer, 714 Chestnut St., Philadelphia, Pa.

WHAT AUTO SHALL I BUY?

Doctors, of course, sometimes disagree, but all the Minneapolis doctors who are using Elmore's agree that there is no better automobile for a doctor's use. To be sure it is not "foolproof," nor is there reason why it should be; but it is about as simple as an automobile can be made. It has no valves, and the ignition is so simple that it can hardly get out of order; and thus two sources of much trouble are removed, and no others are put in their place.

The lines of the 1910 Elmore are very pleasing, and the workmanship on the entire machine is the very best. No doctor will regret buying an Elmore.

It is sold by the Moore Carving Machine Co., 723-725 Third Ave. South, Minneapolis.

REMARKS ON GLYCO-THYMOLINE

By W. R. D. BLACKWOOD, M. D., PHILADELPHIA

For many years past this preparation has been one of my mainstays in disease of the mucous membrane, and it has held its place despite the trials of many other agents warranted to supplant it by the advocates who decried Glyco-Thymoline when I spoke of its virtues. Space is now getting too valuable to waste with long detailed descriptions of separate cases and anyhow I never did write in that manner—I think general remarks about agents is the better way, and we need this more than stories of symptoms and temperatures, with daily alterations. No class of maladies is more troublesome than disorders of the mucous membranes, and none more difficult to eradicate thoroughly, and we have been put to our wit's end many times for remedial agents in such cases. The local treatment of catarrhs is frequently disappointing, and none more so than the prevalent one—post-nasal catarrh. Unless we can get an alternative condition established little good is done, and nothing has been of greater service to me than Glyco-Thymoline, locally and internally. In several hundreds of long standing and severe cases of this intractable and common affliction I have come to regard this preparation as a standard and almost routine remedy. I seldom care for a post-nasal trouble without prescribing it at the onset, and if I don't it is not long before it comes into use. It is just alkaline enough, just so as to the dialysis (the action locally with exactly the right amount of fluid excretion through the diseased membrane), just enough astringent without drying the parts and just the right thing in the direct line of reparative work; it sets up tissue building soon after the membrane gets somewhere near its right shape. Many things are employed in catarrh, but I firmly believe that if I was confined to one agent only that would be Glyco-Thymoline. For years I used the so-called antiseptic tablets of boric acid and glycerin, etc., with good results, but for a long time past I use it is about half strength with a K. & O. Nasal Douche and from twice to four times daily. With this, in bad cases I give it internally, adding to it

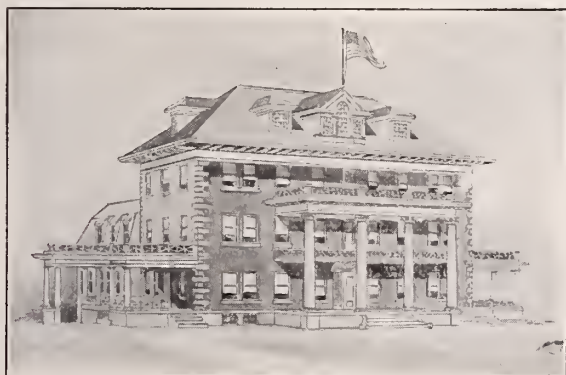
ASSOCIATION AND THE NORTHWESTERN LANCET

or giving separately, mercuric bichloride, and if done separately the menstruum is compound syrup of stillingia. In presumed syphilitic persons I always do this.

In gastritis, chronic enteritis, vaginitis, gonorrhea and in recurring attacks of what in many instances is deemed appendicitis, I use this agent freely, and always with good results. As a local application to foul ulcers, and especially to hemorrhoids, I think this preparation is very good. In the nasty leg ulcers, which now and then defy all remedies, Glyco-Thymoline does wonders—it can't do harm any time, and I am almost persuaded to give it in all instances. In bronchitis and asthma it is fine; in spasmodic croup it fills the bill nicely; it does well in venereal disorders locally and in balanitis it stops the trouble at once.

THE FAMILY READING PROBLEM

To find reading that satisfies one's craving for the bright and attractive, and is at the same time perfectly suitable for impressionable young people, is at times difficult. The best magazines are admittedly published for mature readers only. The Youth's Companion alone is for all the family. While the editors keep in mind the eager desire of the young for tales of action, enterprise and adventure, these stories in The Companion are so well written as to fascinate men and women in all stages of life's journey. And this is true not only of the fiction in The Companion, but of the entire contents. The articles, by famous writers, convey knowledge that is useful to the wisest and most experienced as well as to the immature. In short The Companion solves the reading problem for the entire family. It is entertaining and it is "worth while."



MUDCURA SANITARIUM

Most Home-like and Comfortable Winter and Summer Health Resort in the Northwest.

A new, modern, steam-heated, electric-lighted, fire proof building of 50 patient capacity, located 20 miles southwest of the Twin Cities, in a beautiful 10-acre park overlooking the Minnesota Valley, sheltered from the north by its oak-clad, historic bluffs, with a modern equipped bath department for the scientific treatment of acute and chronic Rheumatism, also Skin, Kidney and Bladder Diseases, with naturally saturated sulphur mud-packs, sulphur water baths, massage and electric treatment. **STRICTLY ETHICAL A First-class Hotel in Connection.** N. W. Long Distance Phone

For further information address

**H. P. FISHER, M. D., Physician in Charge,
SHAKOPEE, MINN.**

CHICAGO POLICLINIC

PIONEER POST-GRADUATE SCHOOL OF THE WEST.

FALL AND WINTER TERM BEGINS OCTOBER 1st.

Clinical work in every department of Medicine and Surgery. An abundance of material; in charge of some of Chicago's foremost specialists.

Short practical courses in Bacteriology and Clinical Microscopy, including examination of blood, pus, sputum, urine and gastric contents.

Throughout the entire year, Professor Cronnerud personally conducts his evening classes in Operative Surgery and Gynecology upon the Cadaver, and Intestinal surgery upon dogs.

Students may enter at any time.

For schedules and particulars address,

M. L. HARRIS, Secretary, 219-221 W. Chicago Ave., Chicago, Ill. Dept. N.

MATERNITY HOME

A Private Home for Women Before And During Confinement

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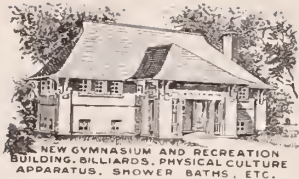
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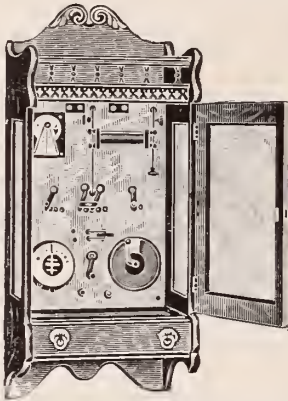
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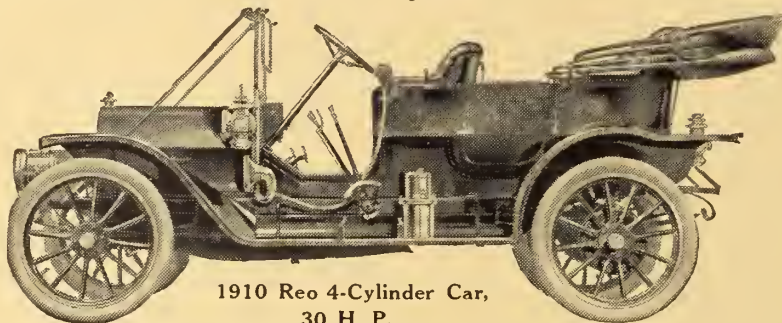
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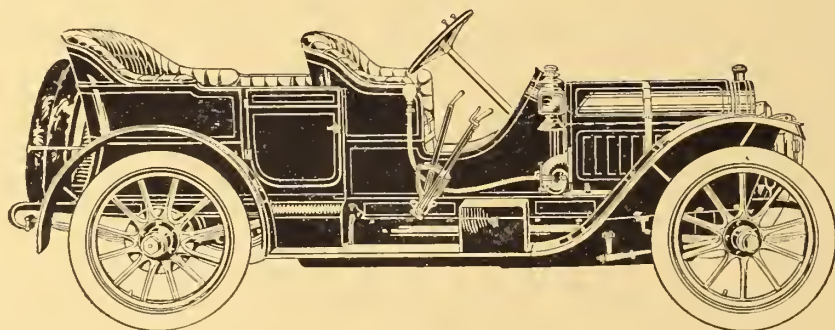
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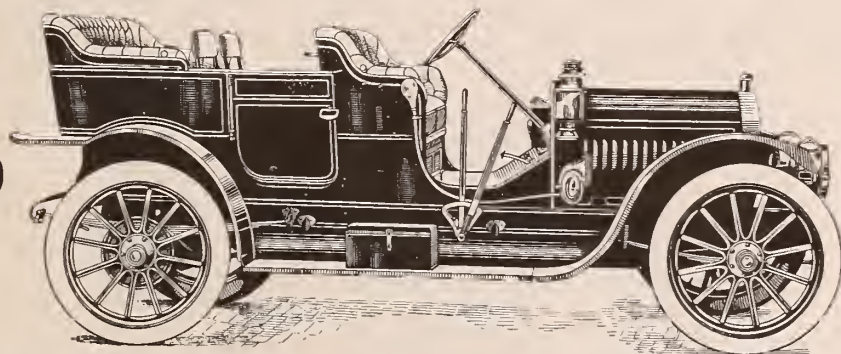
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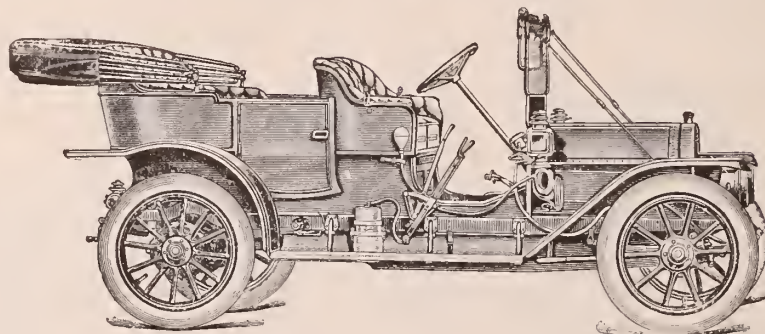
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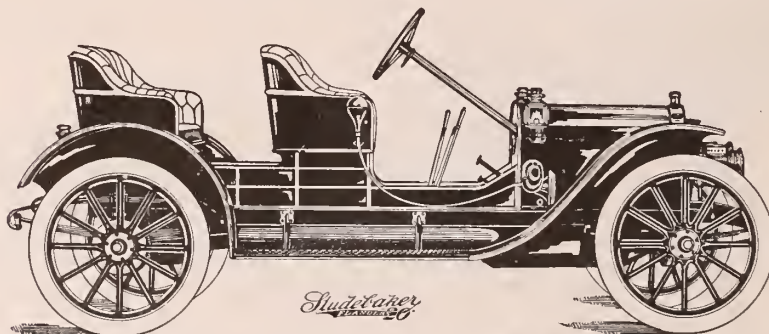
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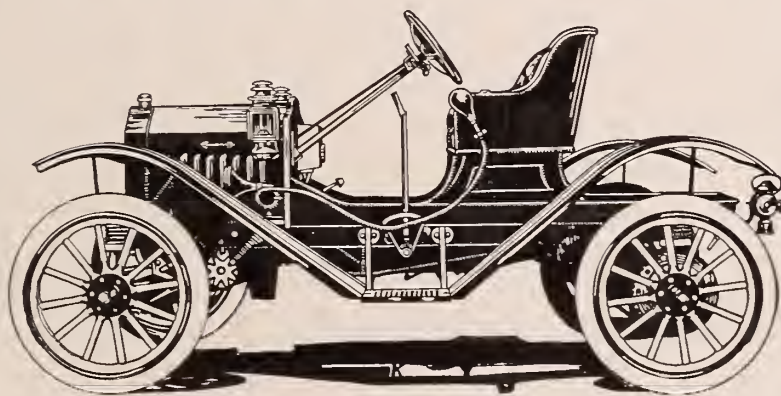
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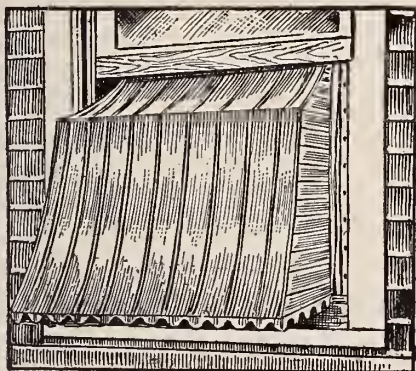
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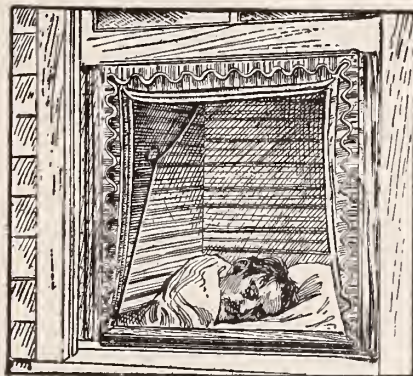
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EXCISION OF THE HEAD OF THE RADIUS*

By ARCH A. EDWARD WILCOX, M.D.

Surgeon to Hill Crest Surgical Hospital

MINNEAPOLIS

Excision of the head and portions of the neck of the radius may be indicated in the treatment of severe injury, such as a gunshot wound, and, occasionally, for extensive compound fractures and tubercular and chronic joint-disease, or for the relief of deformity and inhibition of function of the limb, dependent upon unreduced luxations, vicious union of fractures, or a combination of both. The two cases which I wish to report belong to the latter type, and therefore my remarks will be confined to the consideration of excision for the relief of deformity and limitation of function dependent upon fracture and dislocation.

According to the statistics of Thomas and Pratt, who, in 1905 and 1906, collected 124 cases from the literature and their own experience, fracture is not as rare as some authorities have previously stated. Dislocations of the radius alone are not common. The dislocation may be of the backward, outward, or forward form. It is not uncommon to have the dislocation associated with fracture, particularly fracture of the upper third of the ulna, as is demonstrated in Case 2, Fig. 9. Again, the dislocation may complicate a fracture of the radius, as is demonstrated in Case 1, Fig. 3.

The diagnosis of these complicated cases is difficult. If the dislocation is recognized the fracture may be overlooked; or the fracture of the neighboring bone may be detected and accused of all the trouble, and the dislocation of the head of the radius escape notice.

That an accurate diagnosis be made is of the utmost importance, for only then can appropriate treatment be instituted. The elbow-joint is of great importance as regards the social standing of the patient, and while we have been wont in the past to look upon ankylosis of the elbow-joint as a fairly good result in fractures around this locality, at the present time, with the assistance which the x-ray gives us in diagnosis and the protection we enjoy under aseptic surgical technic in correcting deformity, ankylosis is hardly acceptable as a result of trauma around the elbow, if we exclude the severe cases of comminuted fracture of the lower end of the humerus.

In addition to the ordinary subjective symptoms which accompany all such injuries, there are a few important symptoms I wish to mention.

In dislocation there is no shortening of the forearm, as the ulna is in articular relation with the humerus; however, if the dislocation be associated with fracture of the upper third of the ulna, and overlapping occur, then shortening is evident.

The swelling may be so extensive as to prevent absolute palpation, then the palpation may have to be repeated. These cases usually seek the assistance of a surgeon immediately, at which time the bone may be felt beneath the skin, especially in anterior dislocation. The external condyle of the humerus is very prominent.

Flexion of the forearm upon the arm is limited, as the head of the radius impinges against

*Read before the Hennepin County Medical Society, December 6, 1909.

the humerus. One must continually bear in mind the frequency with which fracture of the upper third of the ulna accompanies dislocation of the radius and thus avoid embarrassing mistakes.

In fracture of the upper end of the radius, the diagnosis is more difficult. The upper fragment may not be in apposition and crepitus is absent. Again, if the fracture is of the impacted variety, crepitus is negative. A careful palpation of the radial dimple is of considerable assistance. Absence of rotation, with local pain and limited function, even without crepitus, would point strongly to fracture. However, it is nearly impossible to make a positive diagnosis of some of these fractures without the aid of the x-ray. Displacement of the upper fragment makes the case one of difficult treatment. This is particularly well illustrated in Case 1, Fig. 3, where the upper fragment united at right angles with the lower fragment.

I believe that the immediate operative treatment of fractures near joints is more dangerous than the secondary or later operation. Of course there are cases where certain indications are for immediate incision, but, taken in the main, in case of excision or incision in the class of cases under discussion, it is certainly safer to wait a reasonable time for nature's readjustment and then attempt to correct, as far as possible, the mechanical difficulties that remain.

CASE 1.—Miss A. R., age 34 years. Accident, April 28, 1908.

While walking across the street, the patient slipped on a piece of hard earth and fell, striking upon the outer side of the elbow (note the direct violence). She was given chloroform by the attending physician, and the diagnosis was fracture into the elbow-joint. The arm was dressed in a right-angle splint and left in this position for six weeks. Shortly after liberating the arm from this constant incarceration the patient was again given chloroform and "the arm broken over again," placed in a right-angle splint, allowed to remain in this position for two days, and then dressed in extension for two days. This treatment was carried on alternately for several weeks, causing the patient considerable suffering and at the same time preventing all but slight readjustment by nature. Then followed more or less irregular treatment of massage and slight movement.

Examination, October 2, 1908: There is more or less constant pain, particularly over the inner condyle and corresponding fairly well to the distribution of the ulna nerve, but the whole joint



Fig. 1, Case 1. Composite photograph,—five months after fracture of the neck of the radius, showing limitations of flexion and extension.



Fig. 2, Case 1. Showing limit of extension and forearm held in position of supination.

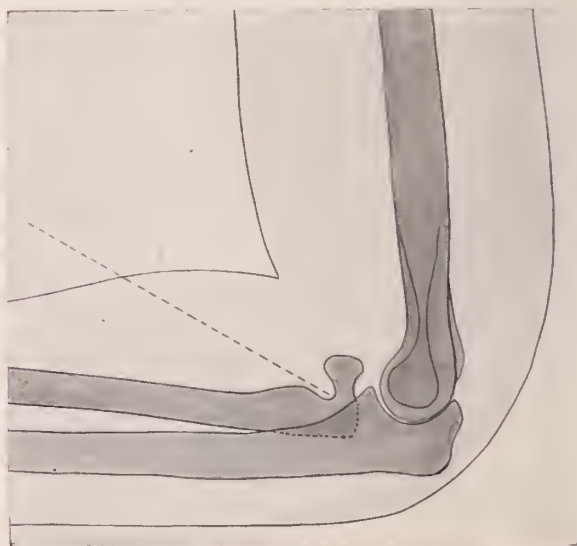


Fig. 3, Case 1. Diagrammatical x-ray outline, showing union of the upper fragment to the lower in the right-angle position.



Figs. 4 and 5, Case 1. Two months after excision of the head of the radius, showing restoration of complete supination and pronation.

is tender. Pain is marked over the head of the radius.

The patient holds the arm in a position of supination. (Figs. 1 and 2.) Pronation is impossible.

Flexion of the forearm upon the arm is possible to a degree slightly beyond a right angle. Extension causes pain after attempts at flexion, and can be accomplished with effort, only so far as is shown in Fig. 2, Case 1.

Over the head of the radius there is an enlargement. The forearm locks when forcibly flexed at the position shown in Fig. 1, Case 1. Pronation cannot be accomplished by force. The head of the radius is indistinct in the radial dimple, and as the forearm cannot be rotated rotary motion in this locality is negative.

A diagnosis of dislocation of the head of the radius, with possible fracture of the inner condyle and callus impinging upon the ulnar nerve was made, and the patient referred to Dr. Geist for x-ray examination.

Fig. 3 (diagrammatical x-ray outline of Case 1) shows an old fracture of the upper end of the

radius with a right-angle deformity and the upper fragment united at right angles to the lower fragment. The clinical symptoms could now be easily accounted for. Flexion was impossible, as the head of the radius came in contact with the lower portion of the humerus when carried beyond a certain point. Pronation could not be accomplished, as the deformity would strike against the smaller sigmoid cavity and the coronoid process of the ulna when this movement was attempted. The continual pain and soreness over the internal condyle was probably due to the neuritis, the result of primary trauma, or to continued irritation from exudate thrown out at the time of the injury and subsequent manipulation. There is still some thickening over the internal condyle. The x-ray failed to show any positive evidence of former fracture of the inner condyle. As the difficulty seemed to be mechanical, excision was advised.

Operation, October 14, 1908: An incision was made on the outer side of external condyle, through the intermuscular septum, and the capsule was opened. By keeping close to the bone



Figs. 6, 7 and 8, Case 1. Showing functions of the forearm one year after excision.

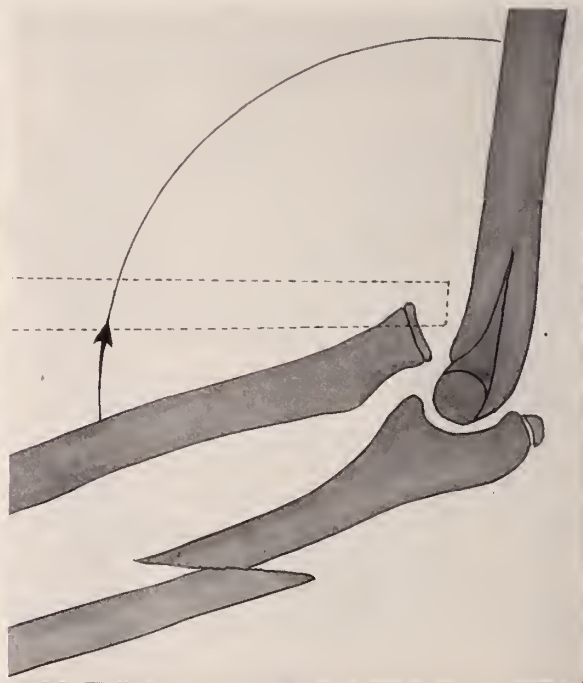


Fig. 9, Case 2. Diagrammatical x-ray outline showing dislocation of the radius and fracture of the upper third of the ulna.



Fig. 10, Case 2. Photograph showing the limits of flexion fourteen months after the accident. Note the width of the upper forearm.



Fig. 11, Case 2. Composite photograph, showing the limits of flexion and extension fourteen months after the accident. In extreme extension note the prominence of the palmar surface of the upper forearm. (Head of radius).

and working inside the capsule no trouble was encountered.

The radial and musculo-spiral nerves were not exposed. The upper portion of the radius, as far down as the bicipital tuberosity, was removed by forceps, and the cavity curetted, as the adhesions were dense. The capsule was closed with catgut sutures, and a small rubber drain was placed down to the capsule, and was removed at the end of forty-eight hours. The wound closed by first intention. The patient got up the second day and left the hospital at the end of a

week. Passive motion was commenced at the end of ten days. On November 10th, one month after operation, the patient was examined under chloroform, and the arm could be put through all motions nearly to a normal limit. The progress has been continuous. Two months after operation (Figs. 4 and 5) demonstrate the function of pronation and supination restored, and flexion improved seventy-five per cent. Figs. 6, 7, and 8 show function in the forearm at the end of one year after excision. Subjective symptoms are practically absent.

CASE 2.—Miss C. J., age 10 years.

She fell from a horse on May 30, 1908, but I was unable to get direct information regarding how force was applied to arm, but she states that she struck on the corner of the cement curbing (undoubtedly direct violence). The attending physician made a diagnosis of fracture of the ulna, but overlooked the dislocation of the radius. Owing to the limited motions of the arm six weeks after the injury, an x-ray picture was taken, and dislocation found. Two weeks later another physician "reduced the dislocation" and kept the arm in Jones' position for two weeks, but upon removing the dressings the deformity recurred. (The orbicular ligament is undoubtedly lacerated considerably in these dislocations, and this explains with what readiness the deformity recurs.) Again, the fracture of the ulna in this case, with some shortening of the forearm segment, makes the distance between the triangular cartilage of the wrist-joint and the capitellum of the humerus less than normal, so that it is difficult to retain the radius in this limited space.

Examination made November 19, 1908 (five months after accident): The patient complains of some pain in the elbow and particularly over the head of the radius when forced flexion is attempted. The arm is nearly as well developed as the other member. There is an enlargement or swelling over the head of the radius. Pronation and supination are limited about one quarter. Flexion is limited to about a right angle with the humerus. Extension is quite good. The deformity prevents the patient from reaching her hair, feeding herself with any ease, or reaching the back of her clothing with the affected member. All these symptoms were even more marked in Case 1.

The callus over the site of the fracture of the ulna is easily palpated, and the head of the radius is felt anteriorly, occupying a position well



Figs. 12 and 13, Case 2. Photographs showing the range of supination and pronation four months after the operation. Note the increase in the carrying angle in Fig. 13, due to shortened radius.

toward the median line of the elbow-joint. The radial dimple is increased into a deep hollow, and the external condyle of the humerus is very prominent. The upper forearm is wider than its fellow, and when the forearm is extended the prominence over the head of the radius is very marked. (Figs 10 and 11.)

As the diagnosis was apparent, immediate incision was advised, but the parents refused. In July of this year the patient returned for examination, having had passive motion and gymnastics almost continuously for a year, but with practically no improvement, except that the arm could be moved with little or no pain until inhibited by deformity, e. g., the head of the radius coming into contact with the humerus (Fig. 9 diagrammatical x-ray outline of Case 2), in which will be noted the wide separation and upward displacement of the radius and fracture of upper one-third of the ulna.

Operation July 22, 1909: It seemed wiser to approach the radius in this case through an anterior incision, as the head of the bone could be felt directly under the skin. An incision just to the inner side of the supinator longus was made,

and as this is the landmark of the musculospiral nerve, the dissection was made with caution until the capsule was reached. The head of the bone was removed by using a Gigly saw and chisel.

A very important point at this time in the operation is to test flexion and determine whether enough of the bone has been removed to relieve the mechanical obstruction. In this case it was necessary to remove three-quarters of an inch before flexion could be easily accomplished.

The wound and capsule were closed without drainage, and healing by first intention followed.

Passive motion and massage were begun on the eighth day and continued for three or four weeks. Flexion in this case showed immediate improvement, but any effort caused pain for some time. Four months after the operation the improvement in function is nicely shown in Figs. 12, 13, 14, 15 and 16.

CONCLUSION

An accurate diagnosis is most essential in these cases, and can be determined only after repeated observations and intelligent use of the x-ray.



Figs. 14, 15 and 16, Case 2. Demonstrating the range of the restored function eighteen months after the excision of the head of the radius.

Founded upon an accurate diagnosis, the application of intelligent mechanical correction of deformity, thereby restoring function, will do more to relieve the sufferings and incapacities of the human race, in some instances, than many of the daily abdominal operations whose actual internal results are hid, temporarily if not forever, behind the belly-wall.

DISCUSSION

DR. R. E. FARR: Dr. Wilcox has gone over the subject so thoroughly that he leaves very little for any one else to say regarding the technical features of it. If there is any point that impresses itself especially on me, it is the reason that these two individuals were subjected to this operation, in addition to the trouble they went through before and since the operations. The point that impresses itself on me is the reason for this. The reason is the failure on the part of the physicians who first handled these cases to make a correct diagnosis. Too often a doctor is called in and makes an examination the best he can under the many difficulties—after there is great swelling.

I think the patient should always be subjected to an x-ray examination. I do not think we should treat any fracture about the elbow-joint without the x-ray.

I believe that Dr. Wilcox' second case, the younger one, might have had a fairly useful arm by the time she reached adult life. Several years ago I saw a little boy of nine with this injury. I have the x-ray picture. The father refused to allow the operation to be performed, and three years later the boy was doing all kinds of farm work and really had a pretty good arm. In young individuals the function may become pretty good.

Another case which would not submit to an operation (dislocation without fracture) had a great deal of embarrassment in the operation of the function.

The physician should have resort to the x-ray and anesthetic if at all necessary.

DR. F. A. DUNSMOOR: It has been my good fortune, or bad fortune, in the earlier years of my practice to run across a great many fractures of the elbow-joint. I want to endorse nearly everything the doctor has said, with one or two exceptions.

After having established an exact diagnosis, why should the patient be put through one year or six months in an attempt to reduce a condition which cannot be reduced other than by this operation? When there is an anterior dislocation of the head of the radius, if you cannot put it in position at that time you cannot at any time later. I notice Dr. Wilcox said to allow a certain time in which to re-establish the position of the joint. Except in very young cases nature does not do this.

One other point is about the use of the anesthetic. I believe that in those examinations which are made either for establishing a diagnosis, or for the temporary movement of a joint that has been stiff, that it is not necessary to put them to sleep under chloroform when we can use nitrous-oxide gas and not have the danger.

DR. E. S. GEIST: It is the last point the doctor spoke of that has also impressed me. We see how easily the elbow-joint can get along without an inch or inch and a half of the head of the radius. We admit that the elbow will not be quite as strong as if not operated on, but for ordinary use it will be all right. I had this illustrated to me in two cases of gonorrheal rheumatism. In both of these it was necessary to open the joints. In both cases we had agnesis of the elbows. One had very good supination and pronation.

I think one of the important lessons that we can draw from this paper is, that the head of the radius diseased or out of place is more dangerous than no head of the radius at all; that is, the main impression I get from this paper is the excellent function that we can have after complete removal of part of the radius.

DR. J. CLARK STEWART: I think Dr. Wilcox is to be congratulated on his original and excellent paper, which when published will be a great credit to the Society.

I saw a case the day after the patient was injured by a fall on the wrist. The first impression was that it was a sprain. About two days after the injury an operation was performed, and about one-half of the head of the radius was taken off. The arm was left absolutely still for three weeks, at the end of which time it was remarkably movable considering what had been done to it, and in six weeks the arm got perfect supination and pronation.

I think the doctor's points are very well taken.

DR. C. D. HAGGARD: I wish to speak of an injury which resulted in fractural dislocation of the forearm. The injury had occurred something like nine months previously, but by breaking up the adhesions complete and good functions were secured, although no attempt was made to make a ligament.

I want to speak more especially of the matter of diagnosis. It was said that we should use an anes-

thetic and an x-ray. We get much by incision, and I do not think that should be left out. Incision gives a good deal of information at just the time you need it.

DR. WILCOX (essayist): One point of the discussion has been rather interesting to me, and that is the prevalence of cases of injury to the radius, and I think it emphasizes the fact that we are reluctant to report these cases. There is no case of fracture that is not worthy of a report. I think these cases ought to be reported.

I mentioned the absolute essential use of the x-ray. I do not think any of us are capable of making a correct diagnosis without its use. Again, in regard to the use of the x-ray, there are a great many fractures where we have difficulty with the functions that the x-ray helps us to correct.

Dr. Dunsmoor emphasizes the time of operation. I did not intend to convey the idea that I wished to wait several months or a year for nature to restore things. In some cases it is better to wait until the circulation has been established. It is well to wait for these cases a week or two, or even four weeks in some cases.

There are a number of cases, or a class of cases, in young persons where we can afford to wait a certain length of time, and I think the position of the patient referred to who refused to allow the operation was well taken.

I think it is possible also that incision should be included in diagnosis of the joint.

ECZEMA

Samuel Stern, of New York, thinks that the general practitioner does not usually succeed in the treatment of eczema. It is a catarrh of the skin and occurs in persons who are predisposed to other forms of catarrh. Its exact etiology is as yet unknown, but opinion is tending toward the parasitic origin of the disease. The most frequent error in treatment is the use of water on the eruption, which should be absolutely prohibited, cleansing being done with a neutral oil or cold cream. The internal treatment consists in getting the patient's nervous and general condition into the best possible shape. Arsenic is by no means specific. Neither is diet. External treatment is most important. In erythematous lesions the author uses lead acetate and alum in form of a lotion on sterilized gauze until inflammation has subsided, when it may be treated as is chronic eczema, with a tar preparation in a zinc oxide ointment base. In dry eczema oleum rusci and olive oil mixed are useful. Cracks of hands may be painted with five per cent nitrate of silver solution and then covered with salicylated plaster. The x-ray is very useful in treating the obstinate varieties, and is without danger when properly applied.—Medical Record.

DIAGNOSIS AND THE PASTEUR PREVENTIVE TREATMENT OF RABIES*

BY O. McDANIEL, M. D.

Bacteriologist in Charge of the Pasteur Department of the Minnesota State Board of Health Laboratories

MINNEAPOLIS

DIAGNOSIS

All diagnoses of rabies made in this laboratory prior to April, 1905, were based upon the biological test alone; i. e., two rabbits were inoculated subdurally with an emulsion of a portion of the central nervous system of the suspected animal. A positive diagnosis was given upon the death of these animals when preceded by the symptoms of rabies, in all cases death from meningitis or sepsis being excluded by bacteriological examination. Since, in the rabbit, death following symptoms of the disease usually occurs in two to three weeks from the time of inoculation, a positive diagnosis could rarely be given earlier than from sixteen to twenty-one days after the receipt of the specimen. And since, unusually, rabbits develop symptoms after a number of months*, a negative diagnosis

*Our records show that one rabbit in a series died of rabies after about one year; also one rabbit died of rabies after six months.

could be given only after several months had elapsed. Material contaminated from any cause, as through the method of killing (a shot through the head or a blow upon the head), or through decomposition in transit in poorly packed specimens, often caused much delay in diagnosis, due to the irregularity of the development of symptoms, death of one or both rabbits from meningitis or other septic invasion, and the consequent necessity for re-inoculation of other rabbits from the original material and for second and third passages through rabbits. In a high percentage of these cases no diagnosis could be given.

From April, 1905, to the present time, the examination for Negri bodies has been made in addition to the biological test.

From April 25, 1905, to August 1, 1908, 175 specimens from suspected rabies cases were received in this laboratory for examination. These include 2 human beings, 12 cats, 1 pig, 10 cows, 1 calf, 1 sheep, 1 horse, and 147 dogs.

The biological test has been continued throughout this series of cases. One detail of its routine has been added, which is as follows: In each case a portion of the brain or cord is placed

in neutral glycerine in such a manner that air is excluded. Then, if the inoculated rabbits develop meningitis, the material is removed from its first glycerine bath, usually at the end of forty-eight hours, and is placed in a second glycerine bath. At the end of four days two other rabbits are inoculated from a portion of the glycerinated material, and the remainder of the material is placed in a third glycerine bath. Should the second set of rabbits develop meningitis, a third or fourth set is inoculated after a period of seven, ten, or fourteen days. In a few cases this detail, we believe, has rendered possible a diagnosis based upon the biological test.

In addition to the biological examination a search for Negri bodies has been made in each case when any recognizable gray matter was present in the specimen received. Negri bodies, so called from Negri, an Italian, who first described them in 1903,* are small microscopic

*Negri: Zeitschrift für Hygiene, 1903, Vol. 43, p. 507.

bodies varying in size from .5 micron to 25 microns; varying in shape, usually round, nearly round or oval; stained variously with different stains; found usually within, and occasionally without, the large cells of the gray matter of the brain and cord. One or more bodies may be found within one cell. They occur in greatest numbers in the central pyramidal cells of the horn of Ammon, the Purkinje cells of the cerebellum, and in certain cortical areas where the large branched cells are most numerous. These bodies are found in the early stages of rabies, but are usually found in greater numbers in animals that have *died* of the disease. They are believed by Negri and many others to be a protozoön and the cause of rabies. By other workers they are believed to be cell-degenerations. All are agreed, however, that the presence of these bodies in the central nervous system of an animal renders the diagnosis of rabies certain.

The methods used to demonstrate these bodies are very numerous, and many of them have been tried in this laboratory with varying degrees of satisfaction.

At present the usual procedure is as follows: "Impression" smears¹, if the material is firm and

*Read before the Hennepin County Medical Society, April, 1909.

in good condition, or streaked-film preparations², if the material is soft, are made from Ammon's horn and cerebellum and fixed in methyl alcohol from one to ten minutes. These smears are then stained by Van Gieson's³ method, or Williams's⁴, or Frothingham's⁵ modification of Van Gieson's, or by the method of D. L. Harris⁶.

1. Frothingham; Journal of Medical Research, April, 1906.—Am. Jr. of Public Hygiene, Feb. 19, 1908.

2. Williams; Louden & Murray; Journal of Infectious Diseases, May 18, 1906.

3. Van Gieson; Central. f. Bak. Erst. Abt. Bd. XLIII. Heft. 2.

4. Williams, A. W.; Am. Journal of Public Hygiene, Vol. XVIII, No. 1.

5. Frothingham; Am. Journal of Public Hygiene, Vol. XVII, No. 1.

6. Harris, D. L.; Journal of Infectious Diseases, Dec. 18, 1908.

Portions of the Ammon's horn and cerebellum are hardened in Zenker's fluid, from which paraffin sections are made and stained by Frothingham's method.

Formerly it was not uncommon to find Negri bodies in sections after having failed to find them in the smear or film preparations, but latterly with the use of the above-mentioned staining methods, which are both simple and rapid in execution, the examination of sections has not added to the accuracy of the diagnosis.

Summary of Rabies Examinations April 25, 1905, to Aug. 1, 1908:

Negri bodies + rabbit inoculations + . . .	81
Negri bodies — rabbit inoculations + . . .	34
Negri bodies + rabbit inoculations, unsatisfactory	6
Negri bodies, no examination, rabbit inoculations +	2
<hr/>	
Total positive cases	123
Negri bodies — animal inoculations — . .	33
Negri bodies, no examination, animal inoculations —	2
Negri bodies (?), animal inoculations — . .	1
<hr/>	
Total negative cases	36
Negri bodies, no examination, animal inoculations, unsatisfactory	2
Negri bodies, no examination, animal inoculations, not made	9
Negri bodies — animal inoculations, unsatisfactory	5
<hr/>	
Total	175

Animal inoculations, unsatisfactory, means that the inoculated animals died of meningitis or septic infection.

Out of a total of 175 specimens submitted a diagnosis of rabies was given in 123 (70 per

cent), a negative diagnosis in 36 (21 per cent), and no diagnosis in 16 (9 per cent).

In the group of 123 positive cases an almost immediate diagnosis was made 87 times (71 per cent). In six of these instances a diagnosis could not have been made by animal inoculations, for all such inoculations resulted in death from bacterial infection. Two specimens were in such bad condition that no search for Negri bodies was made; in each case only one rabbit survived a meningitis, and it died of rabies, as proven by the finding of Negri bodies and also by second passages through other rabbits.

Of 34 cases (27 per cent) in which Negri bodies were not found, but in which a positive diagnosis was made later from animal inoculations, the specimens submitted were in bad condition in over half of the cases. While the dog had been shot, soon after the appearance of symptoms, in seven of the sixteen specimens which were in good or fairly good condition, it is quite probable that a more prolonged search would have made the microscopic diagnosis positive.

In the group of 36 negative cases Negri bodies were looked for 29 times. In one case no intracellular bodies were found, but eosinophile bodies resembling Negri bodies were found extracellularly placed. The failure of the animals to develop symptoms removed all question in this case.

In the group of 16 cases in which no diagnosis was made, Negri bodies were searched for five times, there being only small pieces of cerebrum recognizable. Although the condition of the material did not warrant it, animal inoculations were made in seven specimens without result. No examination was made in the nine remaining specimens, the brain substance being in a semi-fluid state, and, indeed, in some of these cases no brain substance was present when the head was opened.

The large number of positive cases in this series (77 per cent of the 159 diagnosed cases), shows conclusively that the so-called "scars" throughout our state are justified, and suggests that some of the specimens upon which no diagnosis could be made may have come from rabid animals.

From the above table it will be seen that by the preliminary microscopic examination a diagnosis of rabies may be made promptly upon the receipt of a dog's head, or it may not be made under a period of three or more weeks. It will be seen, also, that where the animal has been killed a negative diagnosis, i. e., a diagnosis

of "not rabies," can be made only after the lapse of some months. And, further, it will be seen that in some cases it is impossible to give either a positive or a negative diagnosis from the specimen received.

Since a clinical diagnosis of rabies in the dog can be readily made by a veterinarian or physician, and since by observation of the dog rabies can be excluded practically always by any observer, it is urged that, when possible to do so, the dog that bites a human being should be secured and watched for further symptoms of rabies. This is especially urged in the case of casual biting, i. e., when there seems to have been some reasonable provocation for the biting, as that of a stranger entering upon the premises of the owner of the dog or a child playing with a dog while he is eating, etc. If the dog that has bitten a person lives and remains well throughout a maximum period of two weeks (probably three to eight days) following the biting, there can be no danger of the development of rabies in the bitten individual and it is in this way only that an absolutely negative diagnosis can be made without delay. In this way also unnecessary treatment of individuals will be avoided, and at the same time all undue anxiety on the part of the patient and friends throughout a more or less extended period can be removed. Likewise anxiety concerning the possible loss of valuable stock or dogs or concerning the danger attendant upon the development of rabies in such animals will at once be removed. Still further, unnecessary quarantine and ruthless destruction of valuable domestic animals or even of dogs will be avoided.

Should the dog be sick, or become sick within two weeks from the date of biting, he should not be killed until it is possible to make a clinical diagnosis, provided he can be *safely* secured and observed. If it is obvious that he is rabid and danger would be incurred in attempting to secure him alive, i. e., if he is acting in a distinctly wild manner, biting promiscuously at persons, animals, and things, he should be shot at once. He should be shot in such a manner as not to destroy the brain and thereby render a laboratory diagnosis impossible. It should be remembered that the disappearance from home on the part of a dog that has bitten an individual suggests rabies in the dog; at least, in a community where rabies is prevalent it should be so considered.

While attention is here called to the importance of making a clinical diagnosis in a dog that has bitten human beings or animals, it is not intended to suggest that the laboratory diagnosis

should be omitted. The laboratory diagnosis should be made in all suspected cases,* in order

*In Minnesota if human beings have been bitten or otherwise exposed to possible infection by animals suspected of having rabies, the heads of all such animals should be sent for examination to the Laboratories of the State Board of Health, Minneapolis (St. Paul and Minneapolis excepted; heads of suspected dogs within these two cities should be sent to the laboratories of their respective boards of health). Promptly upon the death of the animal the head and neck should be severed from the body close to the shoulders. The head, with the attached neck, should at once be wrapped in muslin, then placed in a water-tight tin can or box and packed in a keg or other receptacle sufficiently large that an abundance of ice and sawdust may be packed around it. It should then be sent by express, prepaid. In the winter the head may be frozen before shipping it, and a much smaller quantity of ice will suffice to keep the head in good condition during transit. Specimens forwarded to these laboratories should be addressed as follows: Minnesota State Board of Health Laboratories, University of Minnesota, Minneapolis, Minn.

to check the accuracy of the clinical diagnosis, in some cases differentiating rabies from meningitis or other disease. It is because the exclusion of rabies can be made without delay and with absolute accuracy in all healthy dogs that this method of observing the offending animal is so strongly urged.

PASTEUR PREVENTIVE TREATMENT

The Pasteur Department of the Minnesota State Board of Health was opened on Aug. 1, 1907. From this date to Aug. 1, 1908, 212 persons were registered for treatment. A record*

*Some similar applications through physicians by telephone, etc., have not been recorded.

of 110 other persons has been made, including four from outside of the state, who applied to the Department for treatment or advice, and who, upon the advice given, did not receive treatment. Five of these applicants had been in some way associated with a rabid animal, but the possibility of infection was so remote that they were advised that treatment was unnecessary. One young woman had been bitten by a dog that died a few days after the biting and may have been rabid, but since the biting had taken place thirteen months previous to the date of application, treatment was considered unnecessary. The biting in two persons antedated the appearance of the first symptoms of rabies in the dog by a period of more than two weeks, and here again treatment was deemed unnecessary. The remainder had been bitten by dogs that had not shown any symptoms of rabies (most of the dogs were supposed to be living and well at the time of the application). Each applicant was advised to watch the dog for symptoms of illness for a period of two weeks from the date of biting, and to return without delay for treatment if within this period the dog became sick, disappeared from home, or died. All such

applicants were requested to report by letter or telephone to us concerning the outcome in the dog, but less than half responded in any way.

The treatment used is essentially the same as when first given to the world by Pasteur, more than twenty years ago. Minor modifications, which have been adopted by most other institutes, both in this country and abroad, are used here.

The treatment consists of daily subcutaneous injections of portions of the dried spinal cord of a rabbit dead of fixed rabies virus. By "fixed" virus is meant a rabies virus that produces in the rabbit symptoms of rabies at the end of a definite or fixed number of days following its subdural or intracerebral inoculation into the rabbit. "Street" virus means the virus in nature or, as it is commonly found in dogs, in the street. Street virus when inoculated into rabbits produces symptoms in from twelve to twenty-one days or a longer period of time. Fixed virus is prepared by passing the virus from a rabid dog (street virus) or other rabid animal through a long series of rabbits. After the first few passages the period of invasion gradually becomes shorter and shorter till the fixed period of six days is reached. The cord is removed* from the rabbit under the strictest

*Method.—The doors and windows of the room are closed to prevent air currents. The rabbit is wetted thoroughly to prevent hairs blowing about, then placed, face downward, and hooks, attached to the table, are inserted under the tendo Achilles. The skin is reflected over the head of the rabbit, after cutting through the skin, encircling the body just anterior to the base of the tail. If any hairs are attached to the muscles over the lower back region, the muscles are seared with a hot soldering iron. The muscles are dissected away from the vertebrae, the spinous processes of the vertebrae are clipped off with heavy curved scissors, and the spinal cord is laid bare by cutting through the vertebrae on either side of the cord. A portion of the medulla for the inoculation of two other rabbits is removed, placed in a sterile Petri dish, and set aside for a few moments. The spinal nerves are severed with scissors, leaving the meninges intact. A sterile thread, held in sterile forceps and bearing a loop in one end, is slipped over the upper end of the cord and tightened about it. The cord is lifted by means of the thread and freed from its canal down to the middle point where it is cut transversely, and half of the cord is lowered into the aspirator-jar containing potassium hydrate. In like manner the lower half of the cord is hung.

Instruments and Accessories:

Operating table bearing—

- 1 sterile 2-litre aspirator-jar with opening on top and side near bottom containing potassium hydrate, the openings plugged with cotton.
 - 1 Petri dish containing sterile thread with loops.
 - 1 empty sterile Petri dish.
 - 1 tray containing the following sterile instruments:
 - 3 scalpels,
 - 1 pair heavy curved scissors,
 - 1 pair special bone-forceps,
 - 2 pairs tissue-forceps,
 - 1 head-block,
 - 1 pair blunt-pointed scissors (not sterilized) for incising the skin.
- Attached to the end of the table are two chains with hooks to be hooked beneath the tendo Achilles of the rabbit (as done by the N. Y. Board of Health Laboratory). Near at hand also is a soldering iron set over a flame.

aseptic precautions, a portion of the medulla

being reserved to inoculate other rabbits. The cord is at once suspended over potassium hydrate and placed for drying in a dark room which is kept at a temperature of about 68°F. A fresh cord is hung each day, and the cords are kept in series up to twelve days. This necessitates having *one* rabbit die each day from fixed virus infection. In order to have one rabbit die each day *two* rabbits are intracerebrally inoculated*

*Method.—As soon as the cord is hung and put away the portion of the medulla that was reserved in a Petri dish is rubbed into a few c. c. of physiological salt solution by means of a spatula, and two rabbits are inoculated as follows: The rabbit is rolled for convenience in a "roller" towel and held by an assistant. The hair over the site of the operation has already been clipped. The skin and hair on the top of the head is thoroughly moistened with 5 per cent phenol solution. A longitudinal incision about two centimeters long is made about 1 cm. to the left of the median line, the mid-point of the incision being in line with the posterior angle of the eye. The skin is drawn to the right of the median line, and by rotating the point of the scalpel an opening in the skull is made. Through this opening the syringe needle is passed, the needle being directed into the left ventricle, as practiced by Cumming of Ann Arbor. Less than 0.2 c. c. of the emulsion of the medulla is injected. The skin surface about the incision is dehydrated with alcohol, and the wound sealed with cotton and collodion. Symptoms develop on the sixth day, and the rabbits die in seven days from the day of inoculation. Two rabbits are inoculated each day, to insure against interruption of the series.

Instruments and accessories:

Table bearing—

- 1 small covered dish containing 5 per-cent phenol solution.
- 1 small covered dish containing alcohol.
- 1 bottle of collodion.
- 1 box containing sterile cotton sponges (formerly plugs from empty sterile test-tubes were used for this purpose. These proved to be so convenient, as to size, shape, and preparation, that brass tubes, plugged at both ends and sterilized in a copper container, have been substituted for the open basket of sterile plugged tubes).
- 1 basket containing tubes of sterile physiological salt solution.
- 1 Bunsen burner.
- The Petri dish containing medulla.
- 1 tray containing the following sterile instruments:
 - 1 spatula,
 - 1 2-c.c. glass syringe,
 - 1 scalpel.

each day from the medulla of a rabbit dead from a previous intracerebral inoculation of fixed virus.

The first injection given a new patient is from a cord that has been dried twelve days. Step by step the number of days of drying is diminished until a cord that has been drying but three days is given. From this time until the end of treatment the stronger cords, i. e., cords that have been drying but five, four and three days, are repeated in sequence.

The cord is prepared daily* for injection by

*Method.—The doors and windows are closed. The required lengths of cords to be used are cut off the proper-aged cords into the conical glasses, using as many glasses as there are different strengths of cord to be used. With a heavy glass rod the cord is broken down, rubbed smooth, and gradually physiological salt solution is added until the proper amount is reached. One-sixth inch of cord is rubbed into 3 c. c. of salt solution, and 2 c. c. of this suspension is injected at one time. When two cords are used in one injection (see outline for treatment) a double quantity or 4 c. c. is injected. The glasses containing the freshly prepared suspensions are placed in

a special ice-cooler during the hour devoted to injecting the patients.

Instruments and accessories:

In cord closet—

2 shelves bearing jars of cords from 1 day to 12 days.

1 table bearing—

1 Bunsen burner for flaming forceps and scissors,

1 pair forceps,

1 pair scissors with measure on side,

Required number of conical test-glasses. (These glasses, together with covers of circles of filter paper folded about the tops, have been previously sterilized in metal box-containers. On the paper cover in each case is written a number indicating the strength of the cord, i. e., the number of days it has been drying and below the names of patients who are to receive the same.)

In room proper—

1 table bearing—

1 Bunsen burner,

1 basket of tubes of physiological salt solution.

1 sterile graduated pipette,

1 packet of sterile glass rods.

The conical glasses containing measured quantities of cord.

rubbing it into sterile physiological salt solution, and this suspension is injected into the patient very soon after its preparation.

The injections are made into the anterior abdominal wall a little below the waist-line.

The course of treatment* lasts twenty-one days, most patients receiving but one injection daily. Patients appearing for treatment later than two weeks following the infliction of the bite, and patients bitten upon the head are treated more than once daily for the first few days, the total course of treatment covering the same time, however.

*Outline for treatment—ordinary.

Day	1	2	3	4	5	6	7	8	9	10	11	12	
Cord	12&11	10&9	8&7	6	6	5	4	3	5	4	3	5	and so on to 21.
C. C.	4	4	4	2	2	2	2	2	2	2	2	2	

*Outline for treatment—intensive.

Day	1	2	3	4	5	6	7	8	9	10	11	12	
A. M.		10&9	6	5	3	4							
Cord	12&11		8&7	6	4	5	3	5	4	3	5	4	3 and so on to 21.
P. M.													
C. C.	4	4	2	2	2	2	2	2	2	2	2	2	

SUMMARY OF CASES TREATED

AUGUST 1, 1907, TO AUGUST 1, 1908

Class No. 1. Animal rabid, proven (a) biologically (b) microscopically, or (ab) both.

Class No. 2. Animal rabid, clinically.

Class No. 3. Animal suspected of having rabies.

	—Bitten—			—Otherwise Infected—			Totals
	Head	Hands	Other parts	Head	Hands	Other parts	
Class 1. a	2	23	6	2	7	1	...
Class b	4	27	15	..	15	..	...
Class ab	9	13	11	..	1	..	136
Class 2.	4	18	12	..	..	9	43
Class 3.	3	13	15	..	..	2	33

In the table the cases treated are divided into three general classes.

Class 1 includes all persons exposed to possible infection by rabid animals, the proof of which is undoubted. This class is subdivided into (a) those cases in which the diagnosis of rabies in the animal was based upon the biological test alone, (b) those cases in which the diagnosis of rabies in the animal was based upon the finding of Negri bodies alone,* and (ab) those cases

*Thirty-six of these diagnoses were made in the City Board of Health Laboratory, Minneapolis; 21 in the City Board of Health Laboratory, St. Paul; and 1 in the Provincial Board of Health Laboratory, Regina, Sask.

in which the finding of Negri bodies was confirmed by the biological test.

Class 2** includes all persons exposed to pos-

**In two cases the dogs were found, and treatment discontinued. In three cases treatment was discontinued by the patient after the first, second, or third day without assigning any reason.

sible infection by animals in which a diagnosis of rabies was based upon the clinical symptoms alone. The animals in these cases were not received for examination.

Class 3 includes all persons exposed to possible infection by animals suspected of having

rabies. In three instances the examination of the dog was negative. In one instance material from the dog was received for examination, but was in such bad condition that no diagnosis could be made. In twenty-seven instances the dog was not traced.

All three classes are subdivided into cases that were frankly bitten by the animal, 175 persons, and into cases that were exposed to infection from the saliva of the animal through some abrasion or wound of whatever origin, 37 persons; and both of these subdivisions are again divided according to location of bite or infection. Patients bitten or otherwise infected upon the head and body or head and hands are grouped under head cases: those bitten, etc., on the hands and some other part or parts, but not upon the head, are classed under hand cases.

The treatment was successful in all of the above cases*.

*So far as is known to us all of the above patients are living except one woman, case No. 94, aged 38, who died of cerebral hemorrhage four months after the completion of this treatment. The hemorrhage followed an attack of diarrhea, in which the symptoms were pronounced. The case was one of a large number of similar cases of diarrhea, which preceded an epidemic of typhoid fever in which 4.1 per cent of the citizens of the locality came down with typhoid fever. For above statement we are indebted to Dr. Beach of Mankato.

Since August, 1908, one patient only, No. 236, a 14-year old girl, has succumbed to rabies, 58 days after the completion of treatment.

Statistics show that without treatment about 15 to 18 per cent only of persons bitten by rabid dogs develop rabies and promptly die of the disease. At the original Pasteur Institute in Paris the average death-rate after treatment from 1886 to 1908 is about 0.4 per cent. This percentage

weeks preceding the development of symptoms of rabies in the animal should receive treatment. Although four days is usually reported as the limit of time preceding the appearance of symptoms of rabies in which rabies virus has been shown experimentally in the saliva of the dog, the above time limit of two weeks has been fixed upon by this laboratory as a proper one lest there

COMPARISON OF CLASSIFIED CASES

		786 cases treated at the Pasteur Institute, Paris, year ending Jan. 1, 1908.	207 cases treated at the Pasteur Department of the Minnesota State Board of Health Lab- oratories, Minneapolis, Minn., year ending Aug. 1, 1908.	995 cases treated at Pasteur Institute, Mex- ico City, year ending Jan. 1, 1908.
Class 1.....	17.2 per cent		65.7 per cent	3.4 per cent
Class 2.....	48.8 per cent		20.8 per cent	47.4 per cent
Class 3.....	33.9 per cent		13.5 per cent	49.2 per cent

is based upon the number of persons treated.

A comparison of the 207 cases that received a full course of treatment at the Pasteur Department of the Minnesota State Board of Health during the year ending Aug. 1, 1908, with the cases treated at the Pasteur Institute, Paris, and the Pasteur Institute at Mexico City, shows that the above record is a satisfactory one.

In the Minnesota cases 86.5 per cent belonged to Classes 1 (65.7 per cent) and 2 (20.8 per cent), while at Paris but 66 per cent and at Mexico City only 50.8 per cent belonged to these two classes.

In but 13.5 per cent (Class 3) of the Minnesota cases was it doubtful that the animal was rabid or that treatment may have been unnecessary in some of these cases, while at Paris 33.9 per cent, or more than one-third of all cases treated, and at Mexico City 49.2 per cent, or nearly one-half of all cases treated, fall into the doubtful Class 3.

INDICATIONS FOR TREATMENT

All persons bitten or scratched either by the teeth or claws of a rabid dog or other rabid animal should receive the Pasteur preventive treatment for rabies without delay. All persons having wounds upon the hands, face, or elsewhere upon the body that have come in contact with a rabid animal in such a manner that the saliva of the animal has gained entrance into such wounds, should likewise receive the preventive treatment.

Since the virus of rabies may be present in an animal's mouth four or five days before the first exhibition of symptoms on the part of the animal, it is possible for an apparently normal dog to communicate the disease. All persons, therefore, bitten by or otherwise exposed to infection from an animal within a period of two

should be some variability of the time limit and lest the early symptoms in the dog should be unobserved.

Persons bitten, etc., earlier than two weeks before the exhibition of symptoms of rabies in the animal are in no danger of the development of rabies. In other words, if the dog is living and well at the end of two weeks from the date of the biting it is certain that the animal did not have rabies at the time of the biting and could not have communicated the disease through the saliva.

Hence all persons exposed to possible infection from a known rabid animal, and all persons exposed to possible infection in a suspected rabid animal or in an animal in which it is impossible to exclude rabies at once as outlined above, should be sent to an institute for treatment. (In Minnesota*, to the Pasteur Department of the

*Treatment is furnished gratuitously by the State to its residents. Treatment is given daily at 2:30 p. m., except on Saturdays, Sundays, and holidays, when it is given at 10:30 a. m. The course of treatment lasts twenty-one days. Board and room can be obtained in the Twin Cities at a moderate cost.

State Board of Health Laboratories, University Campus, Minneapolis.)

All such persons should be sent without waiting for a report upon the examination of the head of the animal, for, while it is possible in a large percentage of the positive cases to return promptly a diagnosis of rabies based upon the finding of Negri bodies, it is impossible to exclude rabies, i. e., to return a negative diagnosis based upon this method. A period of possibly several months must elapse before a negative diagnosis based upon the non-development of the disease in rabbits inoculated subdurally from the medulla of the animal under examination, can be returned, for reasons previously stated.

NOTES ON RABIES*

By CHARLES E. COTTON, V. M. D.

MINNEAPOLIS

Rabies and its control should be a matter of interest to this Society at this time because of its prevalence in our community. In Minnesota there has been an outbreak of rabies covering a period of nearly five years, assuming, during the winter months of the last three years, proportions of almost an epizootic character in the vicinity of Minneapolis and St. Paul.

The disease has been known since the earliest times. Aristotle describes it in the fourth century B. C.

Rabies occurs in all climates, but is most prevalent in countries where the population is largest. The islands of Australia, Tasmania, and New Zealand have never suffered from the disease, because of the fact that they exclude it by quarantine and rigid inspection. It has existed in England, from time immemorial, until the last four or five years, since which time it has been practically stamped out. Where the muzzling of all dogs has been rigidly enforced, as in many German cities and districts, the disease has practically disappeared.

It is not known when rabies was first introduced into North America, but it is known to have occurred in the New England states more than a hundred years ago. It occurs also in South America and the West Indies.

Susceptibility.—The disease is seen most frequently in the canine and feline races, but often spreads to the omnivora and herbivora, as well as to fowls, through bites.

Etiology.—Years before the days of pathological bacteriology, rabies was recognized by veterinarians as a disease due only to infection. It can be given by a bite, a simple scratch, or a break in the skin, but this little wound must be infected by the saliva of the rabid animal. There is little danger of rabies being spread, except by dogs, cats, wolves, foxes, and, possibly, skunks. It was formerly supposed that the saliva of omnivora and herbivora was not virulent, but experiments have repeatedly proven it to be infective.

Rabies has been frequently conveyed to animals by the consumption of the bodies of other rabid animals, yet experimenters have failed to convey infection by the flesh. Some authorities claim that the blood of a rabid animal is not viru-

lent. Dr. Law states that "the probability is that the blood is habitually non-virulent in the early stages and in mild cases, but becomes virulent in violent and advanced cases."

Authorities differ in the infectiousness of milk of rabid animals. Peuch and Nocard have found the milk virulent, and Bardach found the same true in the case of a woman for two days before her death from rabies.

Dr. A. Loir, of Paris, who had been associated with Pasteur and his institutes for twenty odd years, stated to the American Veterinary Medical Association, in 1906, that the "infection never passes through the milk." Pasteur first showed that the virus is specially present in the brain and nervous system and that the central nervous organs are constantly infective.

The saliva of an affected dog has been proven to be infective by inoculation eight days before the appearance of the first symptoms of rabies, and it is always virulent for twenty-four hours before the first symptoms appear. Thus an animal may appear in perfect health, and yet carry the virus in its mouth.

Incubation.—The period of incubation varies with the species, the individual, the seat and character of the bite, and the amount and virulence of the virus. In the dog and cat the incubation is from fifteen to sixty days. It is claimed to have lasted a year, but this is very doubtful. In man, as a rule, it is from fourteen to sixty-four days.

Symptoms.—This Society is particularly interested in the symptoms of the disease in dogs and cats only, and I will confine myself to these animals.

In dogs, as in other animals, rabies is manifested in two forms: the violent, or furious, form and the dumb, or paralytic, form. In fully developed cases the dumb, or paralytic, form usually succeeds the violent form. Sometimes the violent form may be absent and the disease manifest itself from the start in the dumb, or paralytic, type, and, again, the victim may die in the early, violent form, and the paralytic does not appear.

In my experience, house and pet dogs are more prone to have the dumb, or paralytic, form, while the larger breeds, such as bull-terriers, setters, etc., have the violent form.

*Read by request before the Hennepin County Medical Society, April, 1909.

The premonitory symptoms are generally the same for both types.

Some marked change in the disposition or habits of the animal is first noticed. The lively, affectionate dog may suddenly become sullen, dull, and ugly. The quiet, undemonstrative dog becomes unusually affectionate, licking the owner's hands and face, and perhaps infecting him even before any suspicion is attached to the animal. The noisy dog becomes suddenly silent, and the silent dog may begin to howl without any apparent cause. In a neighborhood where rabies exists these sudden changes in the disposition of a dog warrant his confinement.

A restlessness, nervousness, tendency to start at slight sounds, snapping at imaginary flies, uneasy, and a disposition to move frequently, apparently in search of a more comfortable position to lie in, are common early symptoms.

A depraved appetite, with a tendency to tear, chew, and swallow foreign objects, such as straw, cloth, coal, dirt, paper, wood, etc., in a full grown dog, is always suspicious.

As yet there is no disposition to bite, and the animal will still respond to the call of its master. Oftentimes the dog will, at this time, have a pruritus or irritation on some one of the extremities and will constantly lick or gnaw the part until the skin becomes raw and bleeding.

There is usually an early change in the voice. This change is hard to describe, but if one ever hears it he will always recognize it. There is a peculiar hoarseness at the start, which slowly rises into a shriller, higher note, or the pathognomonic rabid howl. Sometimes the dog is dumb and never barks or howls.

The violent, or furious, stage is manifested by the above symptoms being more pronounced. The rabid howl is more characteristic. There is insomnia, and the restlessness and the excitement increase. If he sees another dog he will immediately attack it and bite it viciously, but always without any bark or howl.

During a paroxysm he will lacerate his gums or loosen his teeth by biting on wires of the cage when confined; he will even bite at a red hot iron. He will bite his own limbs or body as a result of the pruritus or the disposition to bite.

The eyes have a peculiar wild expression; the pupils are dilated and the conjunctiva congested; the expression is one of anxiety or suspicion. As the disease advances the dilation of the pupil is more marked, as the result of paralysis of the optic nerve.

At this stage the animal has a disposition to

wander, often leaves his home, and may run long distances, always returning to his home. If he meets a dog he attacks him and bites him without growling or barking. If the attacked dog does not retaliate, the rabid animal goes on, but if he bites back or howls, then he will stop and bite again and again, but always in silence, which is in marked contrast with a healthy dog when fighting.

If he comes in contact with a herd of cattle or sheep he may pass on, but if the herd becomes frightened, as usually happens, and start running, he attacks them and bites one after another. A man meeting the dog may possibly escape an attack if he remains perfectly quiet.

In his wanderings the rabid dog has no *dread of water* and may swim streams. He will plunge his nose into water though unable to swallow. In making these runs, the animal may become exhausted, as the result of his paroxysms, and become paralyzed and die, but the tendency is always to return home.

When the animal is confined, the paroxysms appear intermittently. He may lie in a stupid condition for a time, and then suddenly become excited, restless, attacking the cage or any object. A paroxysm can usually be brought on by shaking a stick at him.

Difficulty in deglutition is common, the dog acting as if he had a bone in his throat, which he is trying to dislodge. This resembles the pharyngeal spasms, which are so common in man suffering with rabies.

The bowels at first are torpid, the feces black and fetid, and later there may be a diarrhea.

In the early stages the dog walks and moves normally. Later the back becomes arched, the animal unsteady on his limbs, with lack of co-ordination of movement and paralysis of the hind limbs, death taking place usually in four or five days.

In the dumb, or paralytic, rabies the paralysis manifests itself after the premonitory symptoms, there being no furious, or violent, stage. In these cases the early symptoms are prostration and weakness. There is no disposition to make the long runs, but, rather, to hide from observation. There is rarely any bark or howling, and paralysis of the masseters and dropping of the lower jaw occur early in the disease, and there is no disposition to bite. This paralysis extends to the hind limbs and then to the fore limbs and body. The prominent symptom is the hanging lower jaw, the protrusion of the tongue, the salivation, and the inability to swallow. The eyes

are dull, altogether without expression, and the pupils widely dilated. The prostration becomes complete, and the animal lies quiet until death results in two or three days.

In my experience in Minnesota I have had a great many cases in which the symptoms did not follow either distinct type, but would manifest themselves by an intermediate form or a combination of some of the symptoms of each type.

The symptoms in the cat resemble those of the violent form in the dog. The disease runs a rapid course and ends in death in three or four days. The change in voice is marked, and also the desire to eat foreign objects that are not food.

Autopsy.—The post-mortem lesions are negative, with the exception of the condition and contents of the stomach. It is often filled with foreign bodies of all kinds,—such as straw, pieces of coal, carpet, wood, etc., the result of the depraved appetite. There is an absence of food material in the stomach and small intestines, and the cecum and colon are usually empty. Authorities claim that there are distinctive lesions of the central nervous system, which I am not qualified even to undertake to describe.

Differential Diagnosis.—Some of the affections in a dog that may have symptoms suggestive of rabies, are the delirium in a bitch as a result of lactation anemia, sunstroke, hyperemia of brain, intestinal parasites, and foreign bodies, such as a bone in the pharynx.

Control of Rabies.—The only way of preventing rabies is to eliminate the virus from the country. We already have sufficient legislation, and the authorities have sufficient power, but the difficulty lies in the fact that the authorities do not enforce the orders.

The enforced muzzling of dogs for a period of six months would stamp out the disease. All dogs should be licensed, and every owner should be compelled to provide a collar bearing his name and address, together with the license number. All ownerless, stray, and unlicensed dogs should be killed off each year. Dogs and cats that have been bitten by rabid animals should be destroyed or confined in cages for six months; and imported dogs should be quarantined for the same period. Dogs that have bitten animals or men should be shut up for from eight to ten days, when, if rabid, positive symptoms of the disease will develop.

If the State or Federal authorities could be induced to make and enforce these orders, the suppression of the disease would be much more

effective. As it is now, one city may order the dogs muzzled, and the adjoining town or city may not; and therefore the order does not cover a sufficiently large territory.

Great Britain has entirely eradicated the disease in England and Scotland by the enforcement of these measures, not a single case having occurred there since 1903.

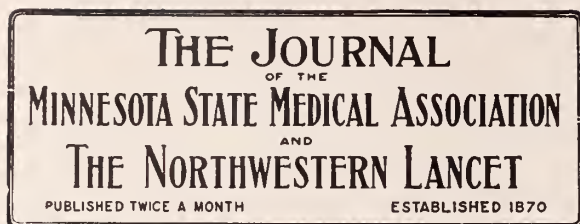
The city of Berlin, way back in 1853, enforced the muzzling of all dogs, and in three years the disease was completely eradicated.

In spite of the great number of cases in animals and of deaths in the human family from rabies in our state in the past four or five years, there are many people in our city who do not believe in the existence of this disease, or, if they do, are so fond of dogs that they oppose the muzzling orders for the suppression of the disease. Most of these people are blessed with ordinary intelligence and education and are generally sane and well balanced on other questions. If they have no regard for the lives of their fellow-citizens, they ought, at least, to realize that it is to the interest and protection of the animals they profess to love, to eradicate this disease by forcing every dog to wear a muzzle, which causes the dog very little annoyance.

If the dog of ordinary intelligence could be made to understand that if he would consent to wear a muzzle or remain in confinement for a period of six months, the disease would practically disappear, he would gladly submit to the inconvenience. The dog is as much a victim of his pseudofriends as is the human family.

A SEVERE CASE OF SCARLATINA AND OF DIPHTHERIA SUCCESSFULLY TREATED WITHOUT MEDICINE

William Hanna Thomson, of New York, describes a case of scarlatina complicated with diphtheria in which the throat was so swollen that swallowing was impossible. Antidiphtheritic serum was administered without any marked effect. Irrigation of the mouth and throat was kept up with hot water, containing chlorate of potash and oil of peppermint, every two hours, in large quantity, used with a fountain syringe. Much exudate came away with the return current and the irrigation gave great relief. The complications were abscesses in the ears, pneumonia, pleurisy, cardiac paralysis, and nephritis. Nevertheless, the patient recovered.—Medical Record.



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THE PRESERVATION OF THE ATHLETE

The student or worker who enters the athletic field in order to develop his muscles does not always take into consideration what the future may bring him. Many men who go in for athletics in youth show evidences of overtraining before their third decade.

The most frequent manifestations of disability are found in the heart and blood-vessels primarily and in the nervous system secondarily.

Enlarged hearts and arteriosclerosis are not infrequent at twenty-five and thirty years in men who are overworked or who have overindulged in field-sports.

The young growing man who has a powerful frame, well-rounded muscles, and a good digestion feels equal to any task. Among laborers in industrial plants the work is often continuous and strenuous, and men vie with one another in the accomplishment of extraordinary deeds. In not a few, early breakdowns are found. Among the many who endure ceaseless toil no apparent injury results.

The same application of results can be made to college students who enter the various teams of contest. A few, perhaps more than we know,

leave the institutions with crippled arterial systems, while the majority escape with an improved or, at least, a whole anatomy.

To attain physical excellence and to reach the maximum of one's ability requires the greatest care in training. Graduated exercises adaptable to each individual case, is the ideal method of training, but of the utmost importance is the continuance of exercise through life. The man who is under training for a few years and then drops into a sedentary occupation, or who becomes dissipated, will surely retrograde, but the man who makes it a part of his daily routine to keep himself up to a special standard will be amply repaid in health and vigor.

An interesting question has been raised by the Toronto Mail and Empire as to the outcome of the fight between Jeffries and Johnson. Both are men who have broken away from training rules and the training-table, and who have been more or less dissipated. The inevitable result is that both men are many degrees below par. As to whether either man can bring himself up to his former grade of excellence, is a subject for discussion, and one which can be settled only after the fight is over. The outcome will be of interest to medical men and will, in a measure, determine the possibilities of repair in broken-down men.

The chance for success does not necessarily lie with the younger man unless the older man has utterly disregarded the laws of hygiene and right-living. A man with a dilated heart and with blood-vessels showing signs of rigidity cannot expect to overcome both difficulties.

Among baseball players, runners, pugilists and wrestlers there are a large number who maintain their good form for a few years, and then retrograde at toboggan speed. They lose their former skill and force, and are short-winded. The man who is a living example of good and continuous training is Muldoon. His muscles are as fully developed and as supple as they were thirty-five years ago, and his perfect form is due to his correct living, daily exercise, and the exclusion of all petty vices. There are but few men who have the courage and patience to keep themselves up to normal. The average man is too lazy or too busy to take the time for his own good, and yet if he will, he may, even at middle life, overcome symptoms of ill health by moderate and systematic exercise. Such work becomes play and invigorates vessels and muscles, and clears the brain of cobwebs. It is not necessary to work long and hard to accomplish re-

sults. Fifteen to twenty minutes each day will do wonders.

From recent advices it seems likely that college athletics are to be improved, and already there are efforts made to weed out the unfit and to scientifically build up those who are suited to the task.

PHARMACOPEIAL CHANGES

The attention of every reader is called to a communication from Dr. Ray Humiston relating to the proposed changes in the U. S. Pharmacopeia.

The convention meets in Washington in May, and Dr. Humiston is one of the delegates from the Minnesota State Medical Association.

In order that each physician may express his individual views on the present and a possible future pharmacopeia, a communication to Dr. Humiston will give him an idea of the needed changes. The whole subject is one that may be discussed from beginning to end, but the convention will, in all probability, focus its efforts on a middle-ground plan.

It is to be hoped that our future pharmacopeias may be simplified and that the waste matter that has been a bugbear will be relegated to a historical volume for reference, rather than for study. The general practitioner needs more knowledge about useful and practical drugs, and that should be worked out by therapeutic conferences and clinical observations. For quick reference the pharmacopeia should be condensed into a smaller volume, and it would not be amiss to follow a portion of the pathway of the large chemical concerns that issue handbooks containing the essentials in pharmacology.

Long-drawn descriptions of drugs and a multitude of diseases for which they may be used, is dead matter. Short, concise descriptions, chemical composition, preparations, doses, and indications for their uses would cover the field sufficiently.

The idea of the employment of drugs for disease without due regard for the individual and his pathological, physiological, and chemical state, is like prescribing a shotgun dose with the vain hope that something in the preparation will hit the mark. Yet that is what most of us do, and what we really accomplish is a form of suggestive therapeutics with a dose of medicine thrown in, with the expectation that the tissues will reject it or that it will pass through the alimentary canal without doing harm. The thoughtless and thinkless prescriber is responsible for the foolish things in the line of remedies that

we read of in medical briefs, and he is also responsible for many dangerous and useless patent and proprietary packages and bottles that flood the market.

It has been supposed that a new order of things has been attained by educational articles, and let us hope so; but a perusal of doctors' prescriptions on file in drug-stores will not bear out the hope. The young man, as well as the old one, is still gullible, and fool drugs are still consumed by unfortunate patients.

Many old things in the pharmacopeia should be dropped and but few new preparations added.

There is strength in simplicity of treatment and a mighty force in a correct diagnosis and a more scientific outcome obtained by the application of simple and safe non-medical agents with an occasional dose of a drug that really accomplishes something. As one old practitioner remarked, "the best vibratory machine he ever saw was a compound cathartic pill."

The newer drugs are uncertain and may be dangerous, for they become known to the people who are fond of prescribing for themselves and particularly those who are addicted to sleeping powders.

Cut the new pharmacopeia in two and make it readable and reliable.

DR. HUMISTON'S LETTER

The decennial convention for the revision of the U. S. P. will soon be called. It is highly important for the delegates to be informed as to the desires of the physicians of the state. It is a fact that the revision of the pharmacopeia has been assumed by the pharmacists owing to the lamentable lack of interest on the part of the physicians.

Now, in order to make the 1910 U. S. P. an indispensable book to the physician, many changes must be made. Will you outline such changes as you consider vital?

What changes in general scope?

Is dosage desirable?

What preparations added?

What preparations dropped?

Is a periodical supplement desirable?

Please address your suggestions promptly to Dr. Ray Humiston, Worthington, delegate to United States Pharmacopeial Convention.

REPORTS OF SOCIETIES

ST. LOUIS COUNTY SOCIETY

The Society met on January 13th, with twenty-two members present. Papers were read as follows: "Causation and Treatment of Asthma," by Dr. F. C. Drenning, Duluth; "Surgical Ap-

pliances of the Past," by Dr. T. L. Chapman, Duluth.

The paper on asthma was well discussed and some good points brought out on the causation and treatment of the disease.

Dr. A. J. Braden, of Duluth, reported two cases of asthma treated by the open-air method as given in tuberculosis, with marked results, and he expects to give this method further trial.

F. A. GRAWN, M. D., Secretary.

STEARNS-BENTON COUNTY SOCIETY

The Society met on Jan. 20th, with nine members present. The meeting was an open one, and was given entirely to the subject of sanitation. Dr. W. L. Beebe made some introductory remarks, and papers were read as follows: "Inaugural Address," by President P. C. Pilon, Paynesville; "State Sanitation," by Dr. H. M. Bracken, St. Paul; "School as a Health Factor," by Dr. W. A. Shoemaker, St. Cloud; "The Fly as a Disease-Carrier," by Dr. J. B. Dunn, St. Cloud; "Tuberculosis," by Dr. J. H. Beaty.

A thorough discussion by both laymen and doctors followed the reading of the papers and brought out the leading points of the papers and added those omitted. We had a pleasant and profitable meeting.

The next public meeting will be held at Sauk Center, Feb. 16th, and the third will be held at St. Cloud, in March.

J. C. BOEHM, M. D., Secretary.

BLUE EARTH COUNTY SOCIETY

The Society met on Jan. 31st, with seventeen members present. Papers were read as follows: "Obstetrician or Midwife," by Dr. H. B. Grimes, Lake Crystal; "Treatment of Lobar Pneumonia," by Dr. John Williams, Lake Crystal; "Anatomy and Physiology of the Skin," by Dr. J. S. Holbrook, Mankato.

T. C. KELLY, M. D., Secretary.

NICOLLET-LE SUEUR COUNTY SOCIETY

The Society met at LeSueur, on January 25th, with six members present. "A Talk on Esophagoscopy and Bronchoscopy, with Special Reference to Removal of Foreign Bodies," by Dr. Arnold Schwyzer, St. Paul, was the only paper given. The annual election resulted in the choice of the following: President, Dr. F. P. Strathern, St. Peter; vice-president, Dr. W. H. Powell, Kasota; secretary, Dr. J. E. Le Clerc, LeSueur; treasurer, Dr. J. W. Daniels, St. Peter; censor, Dr. H. A. Hartung, Le Sueur; delegate, Dr. J.

W. McIntyre, St. Peter; delegate, Dr. D. W. McDougall, Le Sueur.

J. E. LECLERC, M. D., Secretary.

CLAY-BECKER COUNTY SOCIETY

The Society met at Moorhead, Minn., on January 31st, with nine members present. Prof. Beckwith, Bacteriologist of the Agricultural College of North Dakota, gave an informal talk on his work.

The election of officers followed and resulted as follows: President, Dr. O. J. Hagen, Moorhead; vice-president, Dr. L. M. Lowe, Glyndon; secretary-treasurer, Dr. E. R. Barton, Frazee; censor, Dr. V. E. Verne, Moorhead; delegate, Dr. W. J. Awty, Moorhead; alternate, Dr. F. H. Alexander, Barnesville.

The secretary reported a gain of eight in membership during 1909.

E. R. BARTON, M. D., Secretary.

TWIN CITY SWEDISH SOCIETY

The Society met at the residence of Dr. R. O. Earl in St. Paul on January 20th.

The meeting was given up to a symposium on tuberculosis, and papers were presented as follows: "Surgical Tuberculosis," by Dr. E. M. Lundholm; "Serum Diagnosis and Serum Treatment of Tuberculosis," by Dr. Robert O. Earl; "Early Diagnosis of Tuberculosis," by Dr. Edw. Moren; "Medical Treatment of Tuberculosis," by Dr. A. E. Anderson.

The Society voted to have their proceedings published regularly in THE JOURNAL-LANCET.

E. G. STERNER, M. D., Secretary.

STEELE COUNTY SOCIETY

At the annual meeting of the Society, held January 18th, the following officers were elected: President, Dr. J. W. Andrist; vice-president, Dr. T. L. Hatch; secretary, Dr. A. B. Stewart; treasurer, Dr. Geo. Schulze; censor, Dr. G. G. Morehouse; delegate, Dr. G. G. Morehouse; alternate, Dr. J. H. Adair.

The Society voted to take dinner at the hotel Owatonna at noon the first Tuesday in each month and to have a scientific program after dinner.

On February 1st the Society met at dinner, after which papers on pneumonia were read by Dr. Andrist and Dr. Morehouse.

The papers for the March meeting will be, "The Bacteriology and Differential Diagnosis of the Exanthemata," by Dr. Schulze; and "The Present Attitude of Boards of Health, with Reference to the Care and Management of the

Exanthemata," by Dr. Smersh, secretary of our local board of health.

A. B. STEWART, M. D., Secretary.

FOURTH DISTRICT (S. D.), MEDICAL SOCIETY (RE-ORGANIZED)

Pursuant to a call issued by Dr. Charles J. Lavery, Fort Pierre, S. D., Councilor of the Fourth District of South Dakota, a meeting of the doctors of that district was held at the Locke Hotel in Pierre on January 27th, which was the most interesting, profitable, and best-attended meeting that has ever been held in the district.

Thirteen new members were elected and a very interesting scientific program carried out. Papers were presented on the subjects of "Organization of the Medical Profession," "Ulcers of Pyloric Region," and "Laboratory Aids in Diagnosis."

The annual election of officers was also held, with the following results: President, Dr. I. M. Burnside, Highmore; vice-president, Dr. C. M. Hollister, Pierre; secretary-treasurer, Dr. S. R. Wallis, Miller; delegate, Dr. H. T. Kenney, Pierre; alternate, Dr. T. F. Riggs, Pierre.

A resolution was unanimously passed condemning the use of benzoate of soda in the preservation of foods, and the Secretary was instructed to send copies to the two U. S. Senators and two Congressmen from South Dakota, also to the Pure Food Commissioner of South Dakota, and the Chairman of the Legislative Committee of the A. M. A.

A committee of three was appointed to report a fee-bill for the Fourth District Society at the next meeting, which is to be held April 13th. The committee appointed were Drs. C. B. Rentz, Lance Creek; N. B. Gearhart, Pierre, and W. H. Lane, Miller.

The meeting was harmonious and interesting from start to finish. An eight-course dinner was served in the dining-room of the hotel at 11 P. M., where toasts were responded to in a very cheerful and happy manner.

The future prospects for the Fourth District Medical Society appear exceedingly bright. The officers expect to double the membership in the next six months.

CHARLES J. LAVERY, M. D., Councilor.

Hydrogen peroxide should not be injected into deep infections in loose areolar tissue, as the expanding gas pushes the infection into the uninfected areas. Its most useful field is in open places.—American Journal of Surgery.

NEWS ITEMS

Dr. J. W. Warren has moved from Faribault to Owatonna.

Dr. A. A. Forbes, of Hunters Park, has moved to Vancouver, B. C.

Dr. S. P. Seaberg, of Hanska, has moved to North Yakima, Washington.

The Swedish Lutherans will build a \$75,000 hospital at Duluth or Superior.

Dr. W. H. Rowe, of St. James, has taken his son, Dr. Harry Rowe, into partnership.

Dr. G. M. Doran, of St. Paul, has moved to Akeley and taken charge of the Union Hospital.

Dr. George W. Dewey has located at Fairmont. Dr. Dewey recently came to Minnesota.

Dr. W. A. Chamberlain, who recently moved from Waseca to Mankato, has resumed practice in Waseca.

Dr. Karl Scherer, of Ruthlon, has sold his practice and gone to Washington, D. C., to do post-graduate work.

Dr. W. P. Lee, formerly of Fairfax, has purchased residence property at Northfield, and will move to that place in June.

Dr. George A. Sarchet, of Kramer, N. D., has sold his practice to Dr. Rogers, of Bottineau, N. D., and will go abroad for post-graduate work.

Dr. W. J. Byrnes, of Minneapolis, has been elected president of the Native Sons of Minnesota, and yet he is not the "oldest native"—only one of them.

Dr. G. C. Hoff has sold his practice at Sheldon, N. D., to Dr. P. J. Weyrens, of Red Wing. Dr. Hoff will take a post-graduate course, and locate elsewhere.

Dr. M. G. Bickford, of Owatonna, has purchased the practice of Dr. G. L. Gosslee, of Wabasso. Dr. Gosslee will go to Europe for post-graduate work.

Dr. Charles Lyman Greene's recent setting forth of the need of a great endowed institutional hospital in the Twin Cities, has attracted wide attention throughout the state.

The St. Louis County Medical Society is holding weekly study meetings. They are held in

the evening and are entirely distinct from the regular monthly meetings of the Society.

Dr. H. M. Bracken has been re-appointed a member of the State Board of Health, and will, without doubt, be re-elected the Board's secretary and executive officer when his present term expires in June.

The Fourth District (S. D.) Society met at Pierre, S. D., on January 28th. Officers were elected as follows: President, Dr. I. M. Burnside, Highmore; vice-president, Dr. C. M. Hollister, Pierre; secretary-treasurer, Dr. S. R. Wallis, Miller; delegate, Dr. H. T. Kenney, Pierre.

The new members of the State Board of Medical Examiners are Dr. J. W. Andrews, Mankato; Dr. F. B. Hicks, Grand Marais, and Dr. Bolsta, Ortonville. The retiring members are Dr. D. F. Wood, Hanska (now of Minneapolis); Dr. Oswald Leicht, Winona, and Dr. F. J. Brabec, Perham.

The automobile show will open on Saturday next, February 19th, and continue open until Saturday, February 26th. The exhibit will be far the largest and most complete ever given in the Northwest. All kinds of machines and accessories, including many novelties of interest and value, will be on exhibition.

The Black Hills District Society (S. D.) met at Deadwood, S. D., on January 13th, with a good attendance. The following officers were elected for the current year: President, Dr. J. W. Freeman, Lead; vice-president, Dr. F. S. Howe, Deadwood; secretary, Dr. W. L. Vercoe, Lead; treasurer, Dr. F. E. Clough, Lead.

The Northwestern District (N. D.) Medical Society recently met at Minot, N. D., and elected officers for the current year as follows: President, Dr. A. D. McCannell, Minot; vice-president, Dr. J. W. Newlove, Minot; secretary and treasurer, Dr. R. W. Pence, Minot; delegates, Dr. A. O. Aaker, Velva, and Dr. Erenfeld, Anamoose; alternates, Dr. G. R. Ringo, and Dr. A. D. McCannell, Minot. Fourteen new members were received into the Society.

The Aberdeen District (S. D.) Society met at Aberdeen, S. D., on January 25th. Papers were read as follows: "Gynecology," by Dr. B. A. Bobb, Mitchell; "Relation of Orthopedics to Medicine," by Dr. Emil Geist, Minneapolis; "Diagnosis and Treatment of Fracture of the Femur," by W. A. Bates, Mansfield; "Are You

Worthy of Your Hire?" by Dr. Button, Tolstoy. Officers were elected as follows: President, Dr. Daniel Geib, Groton; vice-president, Dr. Adams, Aberdeen; secretary, Dr. J. P. Whiteside; treasurer, Dr. H. R. Gundermann, Selby; delegate, Dr. C. E. McCauley, Aberdeen.

FOR SALE

A \$4,000 practice in a southwestern Minnesota town of 300 with a large surrounding territory, and with the nearest competition nine miles. Practice, Ford auto, and two building lots, \$1,500 cash. Do not write unless you want to buy. Address W. H., care of this office.

LAUNCH FOR SALE

A 35-foot (6-foot beam), 16-horsepower, open gasoline launch; speed, 12 miles. Complete equipment. Built by Dingle, and in first-class condition. Cost \$1,200; will sell for \$800 cash. Address R. M., care of this office.

FOR SALE—HOSPITAL AND PRACTICE

Small hospital with good surgical and medical practice in German-American community. Large territory. Hospital well equipped. Practice with hospital brings eleven to twelve thousand dollars a year, clear. A snap for a doctor who is willing to work. Terms right; must leave on account of sickness. Address K. G. care of this office.

FOR SALE

Give me an offer for a Betz 16 plate Static machine, with accessories. Information on request. Box 221, Blackduck, Minn.

Doctor, if you want practical postgraduate work during fine season in the delightful city, write for particulars. New Orleans Polyclinic, P. O. Box 797, Postgraduate Dept., Tulane Med. College.

OPERATING UNDER DIFFICULTIES

There is a hospital in Aintab, Turkey, which is famous throughout all Northern Syria. It was established and is presided over by Dr. F. D. Shepard, a medical missionary under the American Board. He was once asked what he considered his most successful surgical operation. He replied: "An operation I once performed for strangulated hernia, in the night, in an old hovel without floor, or bed, or window, the patient a man lying upon a mass of filthy rags upon the ground that had been trodden by the feet of ten generations at least, my only assistant an old, ignorant woman who held the native oil-lamp that gave off 90 per cent smoke and smell to 10 per cent of light. The operation had to be performed at once or the patient must die. He made a good recovery, thus proving the uncertainty of the microbe theory as applied to those conditions."



There is an interesting history attaching itself to every style of furniture. In the purchase of furniture if the design is pure then the piece, made only yesterday, faithfully portrays all the history and the sentiment associated with the original. When purchasing

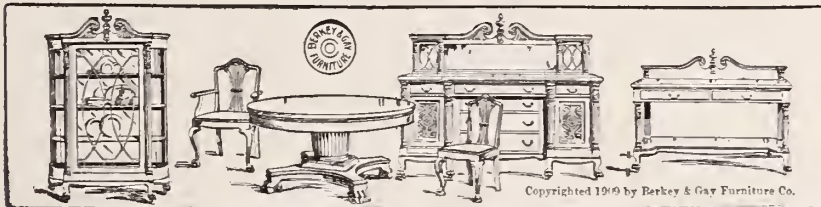
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PUBLISHER'S DEPARTMENT

SOME DOCTORS' AUTOMOBILES

Many of our readers will, no doubt, be at the Automobile Show, which opens in this city on Saturday, Feb. 19th.; and also, no doubt, many a visitor who comes to buy an auto will find himself sorely perplexed as to which is the best machine. Well, as there is no best doctor in the profession, there is no best automobile, but there is one best suited to the needs of each individual purchaser, for every purchaser has, so to speak, his "machine" idiosyncrasies, and these, together with the conditions of the service, must be considered.

Some of the very best machines are advertised in

THE JOURNAL OF THE MINNESOTA STATE MEDICAL

our columns, and they appeal especially to physicians, for their builders have considered the needs of the professional man and the conditions under which he "drives" a machine. Our space permits of only a brief reference to each of them, but even such a notice may be of value to such of our readers as are coming to the great show.

The Pope-Hartford is a name with a history behind it, and its builders claim for it the great excellence of the Columbia bicycle of Col. Pope's day, the best in the world. It will interest every doctor, whether he rides in the city or in the country.

This car is sold in the Northwest by T. M. Anderson, Fifth street at Fifth avenue south.

The Mora Light Four—a limousine, a tourer, a roadster, and a racytype—are cars also with a record, and a peculiar one. The manufacturers claim that more good things in automobile construction have originated in their factory than in any other factory in the country, and they point out a list of such things to prove their assertion. They also, and naturally, claim that not a few of their mechanical improvements are to be found in this year's Moras and nowhere else.

The Mora cars are sold by the Columbus Buggy Company, First ave. S. & Eighth st.

The Velie Forty is one of the later machines, and is built, as its manufacturers claim, with all the defects of the older machines left out, and with all the new ideas suggested by the experience of both builders and users of autos.

It has correct lines, correct material, and correct construction; and it sells at a correct price. The Deere & Webber Co. sell it in the Northwest.

The Reo, the manufacturers assert, is "the doctor's economical car," the one that "gets there and back," a very delightful quality, indeed. There are three Reo models: the runabout, costing \$500; the 2-cylinder touring car, costing \$1,000; and the 4-cylinder touring car, costing \$1,250.

A very large number of these machines have been sold, and a large reward is offered for the discovery of a dissatisfied Reo owner, even though found by a Dr. Cook.

The Fawkes Auto. Co. sells this machine, and they claim for it many points of excellence which a careful observer will discover.

The Brush, the builders say, is "a marvelous car at a marvelous price." (\$485 for Model "D" Standard and \$850 for Model "D" Coupe). This car is built on lines that are exceedingly attractive, and its achievements bear out the claims of efficiency made for it. The manufacturers claim that its balanced motor has never been exceeded, if equalled, in any car at any price.

The Brush cars are sold by Kemp Bros. Automobile Co., 1514 Hennepin Ave.

The Elmore is a valveless two-cycle car which almost approaches the "automatic, fool-proof machine" that many a man longs for after having used some other cars. It is called "the car desirable," not only by its builders, but by all of its users. We know

of some physicians, perhaps with car idiosyncrasies, who claim there is no other car.

The Elmore is sold by the Moore Carving Machine Co., 723 Third Ave. So.

The Cadillac "Thirty" is a \$1,600 machine, which, the manufacturers claim, creates a type of efficiency entirely new at this price; that is to say, the "Thirty" possesses all the real car merits of the highest-priced cars. Its larger engine (meaning greater power), its increased wheel base (110 inches), and its larger wheels (34 in.) and tires (4 in.) make it a better car than the 1909 model; and this the Cadillac Company maintain is its highest commendation. Its highest recommendation is the Dewar Trophy and a demand for cars with which the Company has never been able to keep up.

The Cadillac cars are sold by the Northwestern Auto Company.

The Studebaker bears an enviable name, one that for 57 years has stood for the highest excellence in vehicles; and the Company guarantees that the Studebaker automobiles, of whatever style or price, possess the excellence that made famous the Studebaker carriages. The Runabout sells, with one seat, for \$750 and, with two seats, for \$790, prices made possible for these cars, the Company asserts, only by superior methods of manufacturing and distributing. The Company has endeavored to put upon the market in their runabout a machine that meets the wants of men who buy an automobile for service, as well as for looks, and they claim that nothing has been sacrificed in this car in order to make the price low. It is high-class in every respect, and its real value is not shown by the price.

The Studebaker Bros. Co. of Minnesota are the distributors.

N. B.—After all the good things that anyone can say of automobiles, it is a matter of common experience, even among doctors, that some times they need repairing, especially after real hard usage. The kind of repairs cannot well be enumerated, but some of them are body repairs, top repairs, cushion repairs, wheel repairs, spring repairs, etc., together with new tops, new glass fronts, limousine and coupe bodies, and etc., again. All these things are done best by just one firm in the city, namely, the Wallis Coach & Carriage Works, 12 and 14 East Grant street.

FOOTBALL ACHES AND PAINS RECEIVE NEW TREATMENT

Instead of treating sprains and strains with the hot water and rubbing method, Dr. Williams, coach of the Minnesota football team, gives the latest treatment known to science. The apparatus used is a therapeutic lamp and a bottle of tincture of iodine. The machine is mounted in the dressing-room of the team over one of the rubbing-tables.

When a man is injured he is rubbed down. He is then placed on the table. Iodine is rubbed over the injured part and then the lamp is moved over it slowly. The action of the actinic rays of the lamp has a powerful chemical action on the parts treated and soon relieves all pain. The skin will absorb sev-

ASSOCIATION AND THE NORTHWESTERN LANCET

eral times as much iodine under the lamp as is usually the case.

Men who have had the treatment say that no matter how great the pain is when they are placed on the table, a few minutes takes all the soreness out.

BROMALBIN IN EPILEPSY

The defects of the inorganic bromides in the treatment of epilepsy and other convulsive disorders have long been recognized by medical practitioners. While the bromides have been extensively prescribed—because nothing better had been devised to take their place—their proneness to derange the stomach and to produce systemic disturbances has militated against their usefulness.

The "something better" appears now to be at hand. Reference is made to Bromalbin, an organic compound in which bromine is chemically combined with albumen. Bromalbin contains approximately 15 per cent of bromine. It is in the form of a light-yellow powder and is odorless and practically tasteless. It is insoluble in water, alcohol, acids, and the ordinary solvents, but is slowly soluble in alkaline solutions.

Bromalbin was evolved in the chemical laboratories of Parke, Davis & Co. Before being offered to the medical profession at large it was subjected to thorough clinical tests by leading practitioners throughout the country in a large number of cases in which bromine medication was indicated. Reports of its use in the treatment of epilepsy were highly encouraging, and the belief is expressed that it will prove equally efficacious in hysteria, neurasthenia, reflex headache, insomnia, migraine, and other nervous affections.

The chief advantage of Bromalbin over the inorganic bromides appears to be in its adaptation to long-con-

tinued treatment. It passes through the stomach practically unchanged, consequently does not produce the gastric irritation common to the alkaline bromides. Slowly dissolving in the intestinal secretions, it is then absorbed, producing a gentle, prolonged systemic effect. Other advantages are its more complete absorption, its comparative tastelessness, and the small likelihood that it will produce acne, dizziness, or other symptoms of bromism. It is marketed in powder form (ounce vials) and may be given in water, coffee, chocolate, syrups, wines, or any beverage not alkaline in character. It is also supplied in 5-grain capsules (bottles of 100), in which form, perhaps, it is likely to be most commonly used. There is wide need of a sedative such as Bromalbin promises to be, and fuller reports on the new agent will be awaited with interest by the profession.

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Horlick's Malted Milk Company are the originators of malted milk, and if you desire to obtain the benefits of their manufacturing experience of over a third of a century, do not fail to specify "Horlick's," when ordering malted milk for any case. Their plant is the largest and best equipped in the world for this work, favorably located in the country with ideal sanitary surroundings. Its sun-flooded departments are clean and hygienic, and every detail is carried out under the supervision of experienced operators, in a scientific manner. The milk is obtained from dairies that are models of their kind, while the grains are malted on the premises. This keeps them in close touch with every detail pertaining to the manufacture of the product, imparting to Horlick's Malted Milk a nutritive worth and a reliability, which makes it superior to the efforts of the mere imitator.

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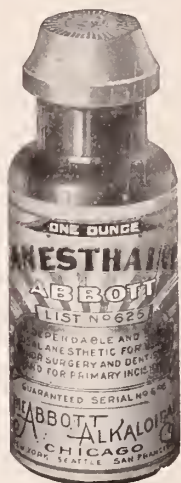
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It is a safe (nontoxic), sure and cheap local anesthetic, for which you will find hundreds of uses. There's nothing better to render painless the opening of boils or felons, the evacuation of abscess-cavities, the extraction of teeth, the suturing of wounds, operations upon the eye, nose and throat work, and the other various operative procedures for which local anaesthesia may be properly used.

Anesthaine (Abbott) contains no cocaine. There are no unpleasant or dangerous after-effects or sequels, such as so often follow the use of that substance. It is safe, sterile, always ready for immediate use, being permanently antiseptic in this solution, and never spoils.

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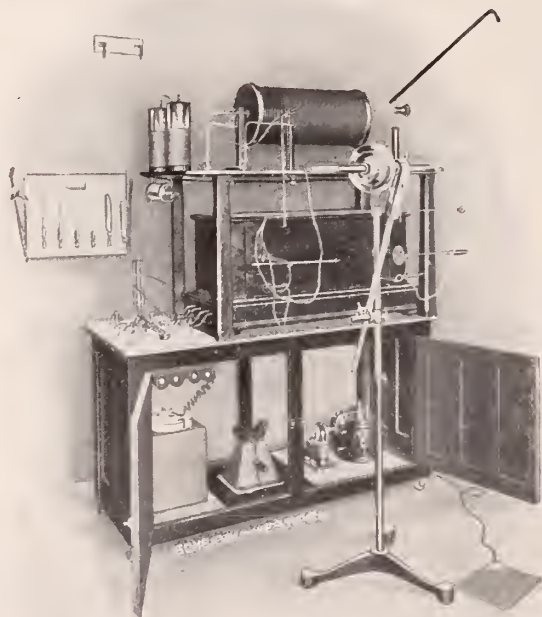
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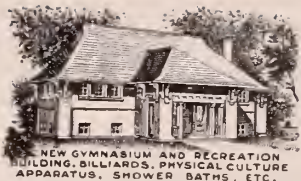
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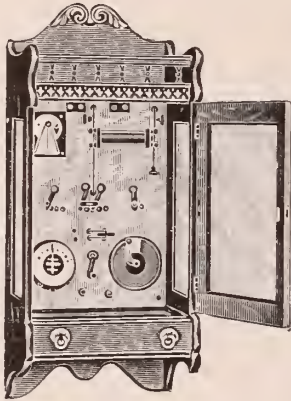
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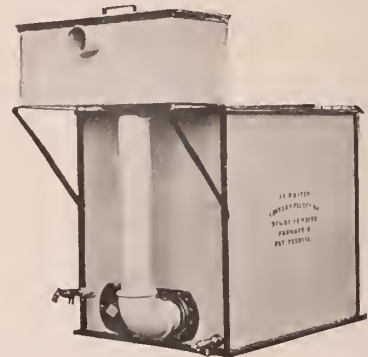
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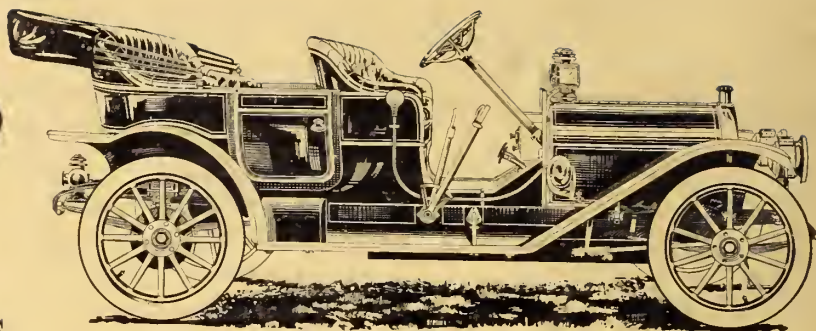
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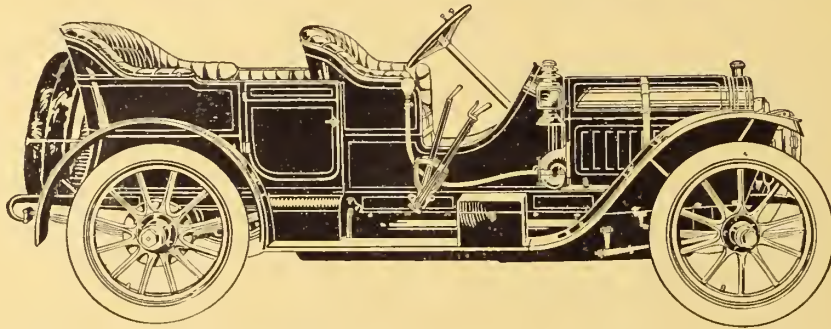
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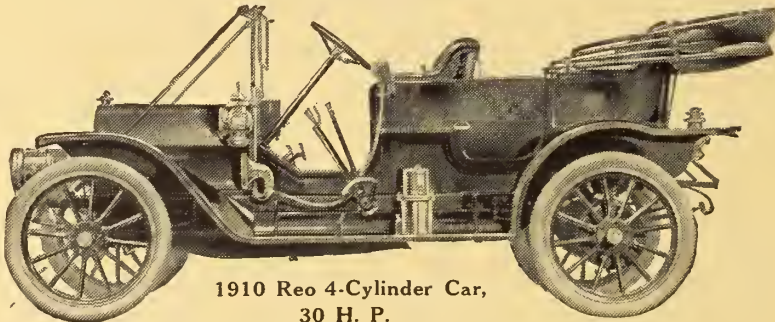
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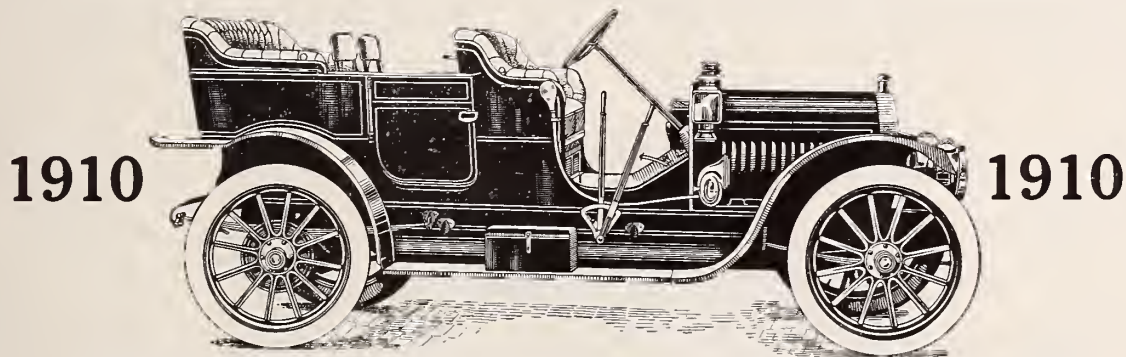
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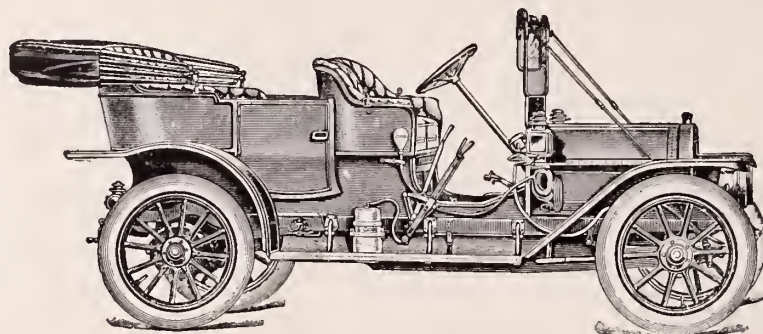
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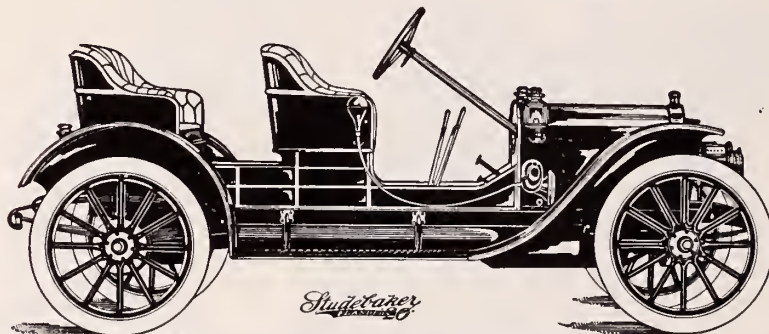
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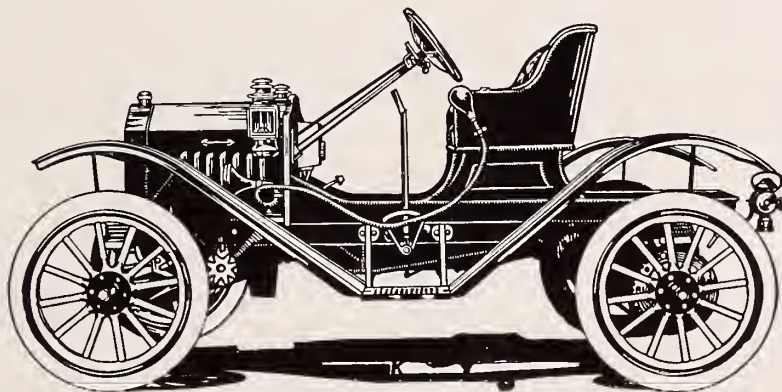
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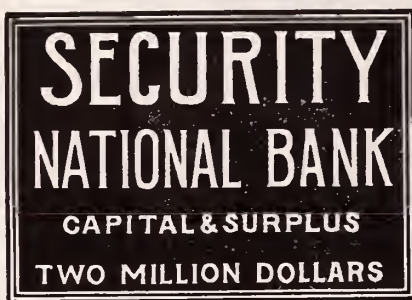
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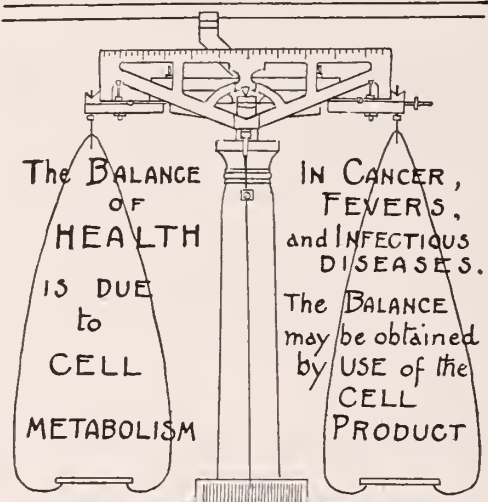
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ESTABLISHED 1870

PUBLISHED TWICE A MONTH

VOL. XXX

MARCH 1, 1910

No. 5

SYMPOSIUM ON THE CO-OPERATION OF STATE FORCES IN MINNESOTA MEDICINE*

THE STATE ASSOCIATION

By E. L. TUOHY, M. D.

DULUTH

A glance at your program will tell you that we are to present a series of papers, which are intended to arouse an interest upon your part in a harmonious co-operation of all the medical forces in our state. Were this paper to be a recital of what our State Association has accomplished the writer would needs be a pioneer, one who had been through all the struggles of organization; and there is much history that would show the devotion that many of the veterans in medicine gave to the cause. Such an active and faithful exponent of this organization was the late Dr. McGaughey of this city. But this is really a look forward to the work that is before us. Manifestly, the work is to be assumed by the younger men. That I consider enough apology why one who is not a veteran should presume to present this paper.

Our entire organization, from the A. M. A. down to the smallest county groups, has often been admired by men who realize the power of organization; and there are many such men in this day and age. Yet, with the keen individuality which most physicians possess, we are more united in spirit than we are in action or in fact;

in other words, it seems quite evident that we have the most thoroughly organized body of educated men, animated by the highest, best, and similar ideals, there is in the entire world, and yet still we have only begun to realize what we can do with it. Certain it is, that we have attempted few national or state-wide problems.

Though we have this tremendous and widespread organization, no one ventures to cast jealous aspersions upon our motives. In general, the public recognizes that we band together, and hold meetings to advance our mutual knowledge, to give our patients better service; and in the end to advance the cause of the State, for, in reality, the State is but an aggregation of patients. After the fiasco displayed in many of the county societies when an agreement was made to unite for a fair old-line insurance fee, no one could call us a union to maintain prices. If so our Association is a rank failure. Consequently we stand with a public fairly well disposed toward us, who accept all we give them with a fair measure of thanks, but who, in the main, consider us theorists and always business failures. If, then, we wish to get any thing worth while we have to assert ourselves, not as individuals, but through our organizations, our various societies.

The first thing our Association does is to make the public respect the profession; and in order to get in out of the rain we have to respect each other. Out of this has grown up our system

*Presented before the 41st annual meeting of the Minnesota State Medical Association, held at Winona, Oct. 14 and 15, 1909.

and code of ethics. One of our greatest time-honored tenets is, that no physician shall flaunt himself or his ideas in public. This has resulted in this fact, viz., we almost never speak as a body to the public, against which course there can be no possible objection. The result is that any medical fact that does get out is garbled and twisted beyond recognition, usually because some reporter has gotten a word or two from some unwilling doctor, and has used his vivid imagination for the rest. We have the pleasure today to hear from a representative of the lay press, and it is for us to get acquainted, so that in the future we shall have the proper understanding. There is very much that the people should know, and we know that they need the information; and there is no way in which they can be reached as fully and effectively as through the ordinary newspaper. I simply wish to state that the publicity committees of our county societies, of which I shall speak later, should be the means whereby we begin a systematic series of heart-to-heart talks with the public. Some will soon begin to think, what more can be expected of us? Are we not already doing more for the public than we should, being misjudged and misunderstood? Can our devotion to the public welfare be duplicated in any other band of workers? Let me at once disclaim any intention whatever of appealing to the profession for further humanitarian efforts, for any other than our own selfish welfare. Physicians have been appealed to so much from the sentimental side that they have come to see only that side. Today let me present the cold-blooded material side.

It is certainly a pin-head judgment that holds that, in order to prosper, physicians should foster and encourage disease. Be it to our eternal credit that medical men have never knowingly done so; but if they should, there would be no better road to financial bankruptcy. How many men in the South ever amassed wealth treating malaria? With the Southland freed of that economic blight, think of the added number of confinements that a prosperous people will be able to pay for, and of the number of appendices which may be removed, with advantage to the patient because he is worth saving, and to the doctor because his patient may be listed in Bradstreet's. No, the association of disease with poverty is constant, as the accounts of every physician here will testify. Some are too sick to live, but more are too poor to die. They are a burden upon the public, of which the physician bears an unequal share. We shall be asked today to stand

back of a broader movement,—for legislative and financial support for an aggressive public health campaign. It is to be hoped that the committee carrying the suggestions of Dr. Beebe's paper, given yesterday in the Sanitary Conference, will receive the hearty welcome and support of the House of Delegates. Is it not apparent that we cannot have a prosperous, efficient people without healthful workers? Allow sickness with its attendants, immorality, instability, and pauperism, to become rampant, and the private physician must give way to State medicine as exemplified in dispensaries, hospitals, and almshouses. That this is no idle dream, let me assure you. At the last meeting of the Pennsylvania State Association, the undue proportion of practice assumed by the State was one of the chief subjects of discussion. This is a crucial time for us.

We have very few dependents on our hands as compared with the number they have in the East. We see all around us evidences of a great change from an attitude of reckless extravagance in all lines to an attitude of conservation. Human life is actually coming to have a value. Sanitarians, economists, ministers, teachers,—all are working for a public efficiency. They are fighting the natural tendencies of our poorly assimilated foreign population to become dependents. They are in a work second only to our own. If we all get together, it may be the day will never come when in the West we shall have the need of so much state activity in the care of its people. Let us not stand idly by and watch the new workers in the field take away the leadership that we have earned and held by centuries of service. Is it not clear that if the people in the mass are not cured or kept well we cannot expect to get paid? and that is what so many physicians seem to have constantly in mind. After all, we are paid very much as the oriental physician is paid. Yesterday we were told that the physician in the orient is paid for keeping his patient well, and if he does not succeed he is apt to be put to death. It amounts to the same thing in our own country, except that here the homicide feature is optioned off to the beef and other trusts captured by the tariff.

It is for us to keep the babies and the young adults alive. Let us save them from preventable disease, and in their old age they will have enough chronic diseases to keep us busy. In the meantime they will have acquired the means to live comfortably, pay their bills, and die independent, which is all anyone can want.

There is so much that our State Association

can do with its various subdivisions, the county societies, we should not expect our officers to do all the work or that the interest in the State Association should stir us to action but once a year, that is, when we meet. Whatever we begin or wish to see accomplished we realize that public opinion must be molded. It must be back of all effective law. It can be admitted at once that laws are needed, but back of them must be the feeling of the people that the laws are proper and just. In that field undoubtedly we have our greatest work.

The other speakers to appear in this symposium will tell us what is needed for our institutions. If we listen intently we may be surprised to learn that some of them have suffered from repeated and continuous financial droughts. Others may tell us that their work has been misjudged and misinterpreted. It is for us to hear what is needed; to agree upon some plan of action, to advance the cause of the medical profession of the state and the medical institutions, and then get back of it and show that we are more than a hollow name. What a few good men, well informed and working in harmony in a community, can accomplish cannot be overestimated. Every county society needs such men. They should comprise a public-affairs committee. Through this committee should be started whatever local action is needed to advance the best interests of the profession, and we can say stoutly and firmly that those are the best interests of the people of that community. It has been so often said that it does not need repeating that the place to influence legislators is in their homes, and it is usually best to do so before they are elected. You know they are never so busy then. We have a year and a half before the capitol will again swarm, and before you fellows down here will attempt to place a pro-rata tax upon the hemoglobin in our blood.

There is not a place in the state that has not its community problems. Then let us use the same well-oiled machine in local affairs, and still keep out of politics. The future will see a lot of the public money spent in bettering sanitation. It is time that it be spent properly, and to see that it is so spent is a duty we owe ourselves as well as the communities in which we live. In keeping close tab upon the matters upon which we as physicians are entitled to give an opinion, we may have not a little influence in bettering some of the conditions of municipal rottenness that are making some men lose faith in a repub-

lican form of government. The small cities, as well as the large ones, will stand much betterment. In this line the profession should encourage the development of sanitarians, either in a special branch of the medical department or in actual work, or both. Raise them to the dignity of specialists in medicine and insist that they be made our health officers and be paid according to ability and training. In the same way when the public wants a medical opinion, the extemporaneous expert should not be so painfully evident, to the regret and shame of the profession. In other words, no man for mere money should accept a health officership, or volunteer an opinion for money, when it is apparent, judged according to liberal standards, that he is accepting money under false pretenses.

Medical inspection is badly needed in all schools, and probably in all factories. Let us see that it is universally instituted, at least in the schools. There are many other such necessities. When some enthusiast approaches us and seeks to enlist our interest in children's playgrounds, charity organizations, etc., let us not refer him to the genial editor of THE JOURNAL LANCET for treatment, but let us recognize that he is in a work as great as our own, and that he is striving to give us a people who will not become dependents.

The work of the Medical Board of Examiners is a thankless one. They need our co-operation. It is certainly to our advantage that they have taken the stand that they have of a high standard for practice in our state. Our requirements are coming to be the model for other states. It is for us to carry out their suggestions, in order to limit quackery. It is now a simple matter to keep up the standard of the regular practitioners in the state. But for those who practice without a license and without any mental or moral right to the title of doctor, there seems to be no easy way to show them that they walk in error. This should not be, and will not be very long. The time is coming when we must have a harmonious profession, unbroken by schisms and factions. The sooner we break down the barriers and work for non-sectarian medicine the better. Several years ago the Illinois Association began to take in certain of our closely related brethren. In talking with a physician of the old school of that state recently, a man who regarded it a heresy in the beginning, he said that it was one of the best things their association could have done.

We can rest assured that the kind of men that our medical examining board admits to practice in the future will be the best. We can also know that we shall have in our midst a medical school the equal of any in our land and a proper place to prepare the coming practitioners, the great prospects and possibilities of which Dr. Greene will point out to us in his paper. It simply remains for the practitioners of the state not to fossilize. We should all be medical students, with only this difference, that those in the University are elementary and those in practice are advanced students. The University and its hospital should be utilized by both, and to the tremendous advantage of all concerned. Our University Hospital should ultimately become the clearing-house for advancement in medicine, and a constant post-graduate clinic for the practitioners of the state. It should be so, not by reason of courtesy, but by right. In order that this may be accomplished the men in practice must co-operate first, because we need the University more than they need us. Each section of the state should have a sense of ownership in the Hospital, and in fact many of the local institutions should be affiliated with it. There could be an interchange of clinical material, or schedules of medical lectures and clinics could be arranged for the county societies either at the University or at other points in the state. A traveling clinic would be one of the possibilities. One gotten up with the express purpose of stimulating interest in the early diagnosis of tuberculosis is greatly needed and would accomplish a world of good. In time the State Association should grow to feel that the University is its home, and should have all its meetings there, where the lecture-rooms, museums, and clinical data might all make the annual meeting of the Association something to be proud of. The Association could easily be depended upon to entertain itself.

As soon as possible the House of Delegates should set aside a sum of money for at least two scholarships, this to be a research fund to stimulate interest and develop new fields. All that has been said about anterior poliomyelitis shows what a broad field there is for such work. Thus each man in the state might feel that he is doing something for the advancement of medical truth.

And let us remember that it is not alone a matter of discretion; it is our bounden duty to those who place their lives in our hands to neglect nothing that will in any way assist us to do better service.

THE STATE BOARD OF MEDICAL EXAMINERS

By F. A. KNIGHTS, M. D.

Member of the State Board of Medical Examiners

MINNEAPOLIS

Regarding co-operation of the State Board of Medical Examiners with other medical forces in the state, much has been said in the past, but very little has been accomplished. Very much is to be desired, since only by a broad spirit of devotion to the profession can any medical body or institution do its best work.

There has been thus far very little attempt on the part of the Board to co-operate with anybody, partly because of the nature of the Board and the manner of its creation, partly because of the nature of the medical law, and partly because no proposal regarding or favoring co-operation has been received from any source.

This is of course an unfortunate situation and yet one which ought not to be very difficult to change. All medical forces in this state ought to be influenced by the State Association because it is in position best to voice the sentiment and further the interest of the profession in the state.

The furtherance of close relation is the purpose of this paper, and I hope the ideas herein expressed may be interpreted in the spirit in which they are written, not of antagonism or personal fault-finding, but as a result of personal observation as a member of both bodies.

If there has been any feeling of tension there are of course reasons for it on the part of both parties. Much misunderstanding has existed as to the present medical law and the apparent purpose in view in the creation of the Board. Many members of this Association suppose it to be the function of the Board to regulate illegal and irregular practice throughout the state, and to prosecute offenders against the law.

The law itself, however, does not indicate in any way that that was the intention or that the Board was intended to be anything more than a licensing body. It is specified that the county attorney shall prosecute, and under this law the Board is just as much under obligation to cause prosecutions as any individual, and not any more so. Consequently when a member of this Association writes the secretary of the Board that so-and-so is practicing illegally, and in reply is directed to secure evidence of the fact and present the same to his county attorney, the secretary is acting according to the law, and the

member should not grumble because there is no one upon whom he can shift his own responsibility.

The Board, recognizing its moral obligations and the demand of the profession, has brought prosecutions in many cases, which prosecutions have for various reasons been uniformly unsuccessful. Almost none have resulted in conviction, and aside from a doubtful educational value they have been of no benefit to any one. The profession, scattered over the state, is not familiar with these facts and has not hesitated to criticize the Board, even from the floor of this Association.

It should not seem strange, then, that the Board has become discouraged and is inclined to confine itself to examining and licensing those who wish to practice. It is possible, however, to conceive of a Board having a much higher conception of the possibilities of action and a more fixed desire to meet the needs of the profession.

The fact that unjust criticism has been made should not deter from action, nor does the fact that the law does not require the Board to prosecute prevent its doing so. Nor does the failure of previous prosecutions mean that none can ever succeed. Possibly, if earnestly sought, other avenues of usefulness might be discovered. And attempts might be made by the Board to avail itself of the co-operation of this Association and ask advice concerning its work. The promotion of co-operation, then, requires that the Minnesota State Medical Association and the Minnesota State Board of Medical Examiners approach each other in cordial and fraternal spirit, the Association with a desire to assist the Board, and the Board with willingness to meet the needs of the Association, and both in the spirit of helpfulness rather than criticism.

The direction in which co-operative effort would tend would probably be in the regulation of irregular practice. Efforts in that direction have generally failed, because of a narrow definition of "practice of medicine" by courts, and because of a lack of public sentiment against irregulars, due to a lack of public appreciation of the dangers connected with their practice. Nowhere does the public realize that "jealousy" is not the principal reason for prosecution, and nowhere does the attorney for the defense fail to convince the jury that that and nothing else is the reason, or that, if an offense has been committed, it is an unimportant one, anyway.

If Dr. McCormack were with us always he might educate our people for us away from these

ideas, and after that the rest would be easy, but since he is not with us very often, it remains for this Association and its component societies to take up the work. When that is done convictions can be secured, but very seldom until then.

If Ramsey and Hennepin Counties are sufficiently interested to assess their members three to five dollars each for three or four years and spend the money judiciously they can clean up the two cities. If this Association will put up one dollar per member for the same length of time it can clean up the rest of the state. The two cities are the centers from which fakirs and medicine-shows radiate, and once they are cleaned out the work in the rest of the state would be easy. The profession would have returned to it all it has expended, and the public would have the protection it needs so much and be much more benefited than the profession. If it wishes to be certain of co-operation on the part of the Board the Association can make a definite campaign to fill vacancies as they occur. Under the law the term on the Board is three years, and members cannot be appointed to more than two terms of continuous service. At present several members are serving their second terms and cannot be reappointed. This Association should see that such of its members as wish to take up the work actively be brought to the notice of the governor and their appointment recommended. The request of fifteen hundred influential citizens should have some weight.

A regular system of notification concerning traveling fakes and medicine-shows by county secretaries should be instituted, by which knowledge of the extent of such practices might be secured. The services of an expert might be secured who should procure and collate evidence, put it in shape to be used, and bring it to the notice of the county attorney (or the boards), to give advice as to the best method of procedure by the county societies, and spare the local men the annoyance of the thing as far as possible. As an officer or employé of the State Association such a man would meet with much less opposition than local men and be more likely to succeed.

These things would require money,—several thousand dollars,—but when we are sufficiently in earnest to spend it, it will be bread cast upon the waters. And about that same time we will inevitably see the Board of Examiners with all the other forces represented, each in its own sphere of influence, acting as organs of a superb, healthful, vigorous medical body.

THE STATE BOARD OF HEALTH IN CO-OPERATION WITH STATE FORCES IN MINNESOTA MEDICINE

BY H. M. BRACKEN, M. D.

Secretary and Executive Officer of the State Board of Health

MINNEAPOLIS

The opportunities for co-operation between the State Board of Health and other organizations interested in public health matters are almost without limit. The beginning of such co-operation might well be found in the State Sanitary Association, which meets each year at the same place and on the day preceding the meeting of the State Medical Association. This organization might well be made a section of the State Medical Association, and could then be used as a common meeting-ground for the many bodies co-operating. Its recommendations could be passed along to the various executive bodies representing the State Medical Association, the state legislature, etc.

The forces interested in public health are—

1. State Departments

- The Governor of the State
- The State Board of Medical Examiners
- The State Board of Health
- The State Medical Association
- The Department of Public Instruction
- The Dairy and Food Department
- The Labor Bureau
- The Live Stock Sanitary Board
- The State Board of Control
- The State Drainage Commission

2. Schools and Institutions

- Public Schools
- Colleges
- Normal Schools
- The University
- Medical Schools
- State Institutions

3. The People

- The Federation of Women's Clubs
- The Commercial Clubs
- The Labor Organizations
- The Charities Organizations
- The Municipal League.

Public health matters should be a common meeting-ground for the above representative bodies, and the State Sanitary Association affords the opportunity for such work.

But co-operative work should not end with the annual meeting of any sanitary association. An educational campaign should be continued throughout the year, and from year to year. The State Medical Association should take an interest in reaching the people through lecturers and through the county medical societies. At every meeting of a county medical society at least one public health topic should be discussed. We should have in the field public health lecturers, carrying out for the state work similar to that done by Dr. J. N. McCormack for the American Medical Association. The tuberculosis exhibit of the Minnesota State Board of Health should become a traveling public health exhibition rather than being specialized as it is now. With co-operation and a constant educational campaign being carried on, it should be possible for the work in preventive medicine to advance rapidly and for those interested in protecting the lives of human beings to secure through the legislature the necessary means, not only for carrying on a campaign for education, but also for meeting the absolute necessities involved in this great work.

While it may not be possible to bring all of these forces into co-operation at once, it should be possible to bring the State Medical Association, the State Board of Medical Examiners, the State Board of Health, and the State University together in co-operative work without delay. In some states the state medical society is used as the basis for the sanitary work of the state. While this may not be possible or feasible in Minnesota, the State Medical Association should take a deep interest in the work of the State Board of Health. It should take a deep interest, directly or through the county medical societies, in seeing that competent county health officers are appointed and in furthering the legislation looking to the enlargement of the functions of these officials, or a provision for state sanitary inspectors. There should be a strong legislative committee representing the first three bodies named above, and this legislative committee should be provided with funds that would permit of its keeping someone at the capitol interested in legislative matters during each session of the legislature. As it is now, the legislators are not well versed in the needs of those matters pertaining to public health which are of great interest to the entire state, and it is very easy for some selfish individual to kill any bill in the legislature that has attached to it the flavor of anything relating to medicine.

The University can do a great work by send-

ing students out from the academic department with some knowledge of the principles involved in public health, while the special departments, such as Medicine, Law, and Engineering, should give their students some training on such matters.

THE STATE BOARD OF CONTROL IN ITS MEDICAL RELATIONSHIPS

BY H. A. TOMLINSON, M. D.,

ST. PETER

It is unfortunate that Dr. Rogers, whose name appears on the program, is not able to be here, because he could have presented this subject much better than I can hope to.

I have always hesitated to speak of the public institutions in our state, and their work, before a medical society, because, during the past eighteen years that I have been a member of the Association I do not recall ever having seen any evidence of interest in the work of these institutions, except in the case of individual members. This lack of interest is unfortunate, because not only this Association as such, but its individual members are vitally concerned with the conditions in human and social pathology that operate to fill these institutions. It will surprise most of you to learn that in the institutions under the direction of the State Board of Control there are about six thousand persons requiring more or less constant medical supervision, and there are about thirty physicians directly connected with this work. The management of these institutions is directed by laymen, and the philanthropic bodies interested in their work are composed of laymen. Is it surprising, therefore, that the medical aspect of the work in these institutions is so little considered? or that the medical men connected with them feel themselves to be cut off from the sympathy and interest of the general profession of the state as represented by this Association, and the medical department of the State University?

I have found, as a matter of experience, that the medical profession, like the general public, is concerned only with the results of pathological conditions in the social body, rather than with causes; consequently they are not imbued with the spirit of investigation, outside of the special lines of work with which they are particularly concerned. If a child is deaf, blind, feeble-minded, or incorrigible, it is sent to one of the

institutions in Faribault or to Red Wing. The adult first offender is sent to the reformatory, or the supposed hardened criminal to Stillwater. If the physician has had anything directly to do with the individual, he feels grateful for the relief from a burden that was discomforting and uninteresting, and his mind turns with satisfaction to appendicitis and gall-stones. The physician as a medical man, or as a member of this highly intelligent and influential organization, never stops to think about the *why* of the conditions that have resulted in the sending of the individual to any one of these public institutions. He is satisfied to know that the child is deaf, blind, feeble-minded, or incorrigible; or that the man is tuberculous, insane, or a criminal, and that the State has provided for the institutional care of these unfortunate or reprehensible individuals.

Taking these facts into consideration, what would you expect that the medical relationship of the State Board of Control would be, and what attitude would the Board naturally assume toward medical work in the public institutions in the state. If this work is not properly provided for or intelligently done, the blame rests with the State. You cannot expect the State Board of Control, a body of laymen, to manifest much interest in the medical work of the institutions under its direction, if the medical profession of the state, through its Association, does not show any interest in the work, or any inclination to ask for or do anything for its betterment. If you will pardon my referring to my own experience, I have felt this lack of interest in the special work of these institutions so strongly that I have always presented papers on general medical subjects, refraining from saying anything about my own special work, because I felt that no one wanted to hear about it, and also because I have wanted to show to the medical men of Minnesota that at least our institutions for the insane are unworked mines of clinical and pathological wealth, and that our institutions have a function in teaching, not only general medicine, but they should be also post-graduate schools of instruction in the prevention of the conditions which bring people to them as patients.

The Board of Control feels keenly its responsibility for the welfare of the people in the institutions under its direction. I am sure its members will meet this Association, at least half way, in any effort it may make to take advantage of the clinical opportunities our institutions offer, and I know that the medical men in the institutions will be very grateful for any help this As-

sociation may give in educating public opinion to the importance of making adequate provision for the development of the medical aspect of the work in our public institutions.

To give you some idea of the preconceived beliefs of the general public: I was, at one time, discussing the importance of accurate records of the medical work in our institutions, and made the statement that I believed these records to be as important as the detailed accounting of the financial affairs of the institution. One of the gentlemen present, a very intelligent man, expressed surprise, and said that he had supposed always that the experience of medical men remained with them, and did not need to be supplemented by written records. Again, some years ago I joined in the discussion of a symposium on disease of the kidney, and spoke of the wonderful opportunity we had in our institutions to study chronic degenerative disease in the vegetative organs, and referred particularly to the help it would be to the students in the medical department of the University to take advantage of the opportunities for clinical and pathological study in general medicine offered by our public institutions. I was approached afterward by a member of the medical faculty, who said he believed it would be a good thing for the students to take advantage of the opportunities offered in our institution for the study of insanity. Can you wonder that we grow discouraged or that the State Board of Control does not take a more active interest in the medical work in our institution?

Suppose, instead, that the State Board of Health, or a committee of this Association, should undertake an investigation of the conditions out of which sense-defects, feeble-mindedness, insanity, and criminality grow, just as they have been for a long time studying the history of epidemic disease and the transmission of tuberculosis. Do you believe that the superstition, ignorance, and misdirected effort that now characterize public relations to state institutions would continue? The State Board of Control, I feel sure, would gladly co-operate in any effort the medical profession makes to help solve these problems, and the Board would be grateful, also, for your aid in educating public opinion, so that their demands upon the legislature would be understood and appreciated, and our law-makers would learn that it is much more economical to prevent than it is to cure. Besides, if you would yourselves take advantage of the opportunities for investigation our institutions offer, you would

soon realize that they have other functions than to hide their inmates from the public gaze. You would learn that we can offer you abundant material for the study of general disease, both clinical and pathological, and that the people in our institutions would repay the interest you took in them; so that you might, in your turn, do your share in dissipating the medieval superstition with regard to such institutions, and help to remove the stigma that attaches to the malady or defect that makes it necessary for people to go to them. The future of medicine is in the direction of prevention. Do not forget then that there are other maladies to prevent than those that result from contagion and infection.

THE RELATION OF THE UNIVERSITY MEDICAL SCHOOL TO THE STATE MEDICAL ASSOCIATION

BY CHARLES LYMAN GREENE, M. D.

ST. PAUL

The Minnesota State Medical Association has a vital stake in, and a definite responsibility for, the progress and well-being of the College of Medicine of the University of Minnesota. The position and standing of the school will serve as an index to the position and standing of the medical profession of the state.

The irresistible advance of medical standards and the attendant increase in the expense of maintenance and operation of medical schools have made it possible for Minnesota to achieve an almost unique and wholly desirable position, in that but one fully organized medical school now exists within her borders. Furthermore, that school is *of* the State and *for* the State, and its responsibility to the people must, and should be, shared by every reputable physician in the commonwealth.

As the authorized representative of its medical faculty on this occasion, I assure you that the men composing that body feel their responsibility keenly, and desire the aid, co-operation, and active support of this Association and of every reputable medical man in Minnesota.

The school is already ranked amongst the best in the United States. Its teaching methods and departmental organization have been brought to a high state of efficiency, and its *esprit de corps* is admirable. But this is not enough; the future holds many difficulties and problems for

the school, and its teachers and executive officers feel that the united effort of the whole profession of the state is necessary to enable the College to fulfil its obligation to the medical profession and to the people.

We need, first, to maintain the unity and centralization in medical teaching which exist at the present time.

Second. Upon the basis of the present inadequate foundation we need to develop and maintain a great state hospital upon the University campus.

• Third. We must establish post-graduate instruction of the most practical and accessible kind, at the earliest possible date.

Fourth. We must, in the near future, organize a definite department of public health, which shall educate and specially train sanitarians, who will fill important positions in the public health field and solve public health questions.

Fifth. We must establish special funds for research and the employment of research-workers. We are doing much under great difficulties, but must do more.

Sixth. All state institutions must be used as extramural clinics and teaching centres.

Seventh. The present close relations between public health and medical teaching must be maintained and extended.

It is certain that if these necessary requirements are to be met, such relations must be established between this Association and the medical department of the University as will keep the Association in touch with the plans and performance of the school, from year to year, and give to the latter the active and intelligent support of the Association and of every individual composing it.

Furthermore, a better and more healthful relation must be established between the medical school and the individual physician, and a way found to carry the teaching of medicine to every hamlet of the state. Our clinical resources must serve the interests of men beyond the confines of the campus or the boundaries of the Twin Cities.

The medical school of today is the antithesis of that of former days. Many of us have seen the day of pitifully meagre requirements for entrance and graduation, when good men achieved success in medicine in spite of their education, rather than because of it—the time when a man educated himself after graduation, sometimes through post-graduate course, but more often at

the expense of the patient in his first years of practice.

In this period so little was required for the degree of M. D., and teaching titles were so easily won and cheaply held, that any quack, pugilist, or chiropodist could assume the title of doctor, or even of professor, without the slightest shock to the public mind. These were the days of crowded schools, poor clinics, and no laboratories, the days when florid eloquence in the classroom was substituted for practical and effective clinical teaching at the bedside. At this period, moreover, medical schools were bound to multiply, inasmuch as the conduct of a medical school involved little pecuniary obligation and slight responsibility.

Minnesota was a pioneer state in establishing higher standards of medical education, and her admirable State Board of Medical Examiners and her medical school have played no small part in the irresistible movement which is wiping out school after school of the older type and replacing the obsolete many by the modern and efficient few.

The high standard of requirements set by our own school was welcomed both by the members of the University faculty and by the Regents of the University, and to such men as were directly interested in effective teaching, the resultant falling off in registration was most welcome. Now, however, we find again a steady increase in our enrollment, and looking into the future we realize with some alarm that we must lay our foundations and make our plans for the future conduct of a very large school. This fact is yet more sharply emphasized when we realize how completely sectarian medicine is disappearing throughout the United States. Modern medicine is so broad and receptive, so eager to acquire all that is good, and so sure of its foundations, that it is fast becoming a practical impossibility for one to practice the healing art within the narrow limits of any so-called "school." The medical school of the future must, therefore, be prepared to educate all who intend to teach or practice medicine.

Minnesota has had in the past several medical schools within her borders, all conducted with ability and sincerity, yet through harmonious union and voluntary dissolution, only one now remains, and that one has back of it the almost unlimited resources of a great state, the good-will of the people's representatives, and the intelligent and enthusiastic co-operation and support of the University Board of Regents, a body

of whom I speak with admiration and respect. Its laboratories are admirably organized and equipped, and it enjoys the clinical facilities afforded by a population of over 500,000 people within the boundaries of the Twin Cities alone.

In the temporary University Hospital we have found that much needed laboratory of clinical medicine, which in its inevitable expansion will extend our clinical field to every city, village, and hamlet within the boundaries of our state. Another year will see our temporary structure replaced by a modern hospital building containing at least 100 beds, which will mark the beginning of the greater hospital of the future, and be operated in direct connection with the out-patient department, a clinic at present inadequately housed, but affording a wealth of material and doing a most beneficent work for the sick poor.

The great municipal and county hospitals of the Twin Cities have not only placed at our disposal nearly the entire clinical material available during the teaching year, but, in addition, are planning to develop and modernize their out-patient departments and establish pathological laboratories of the most modern type, directed by University teachers.

Nothing could be more encouraging or inspiring than this evidence of broad-mindedness, and the ability to grasp the needs of modern medical education on the part of institutional men in charge of these hospitals, and of the lay boards directing and controlling their policies.

You will readily see that we are laying a magnificent foundation, and that if properly developed along the lines now definitely established we shall, with the necessary support from the physicians of the state and from the people, be able to meet every need and requirement which the future may hold for us.

We earnestly and especially desire that the University Hospital and out-patient department shall be made useful, not only to the sick poor of the state, but to Minnesota physicians everywhere, and our admitting officers will always give preference to cases outside the city boundaries. You are invited to send, and better still, bring worthy cases to us, both for diagnosis and treatment, and provision will be made under which we can demonstrate the case or keep the referring physician in touch with it, exactly as is done with a private patient.

We are proud of our school and especially proud of our hospital, and we feel that every Minnesota physician should be familiar with

both. We feel, moreover, that we can give to the sick poor, now and on a yet larger scale in the future, every advantage, diagnosis, care, and treatment that can be enjoyed by the richest of our citizens. We ask you to read carefully the literature placed in the hands of every member relative to the organization and conduct of the University Hospital itself, and we believe that you will agree with us that its almost unique plan is well adapted to secure the highest degree of development in our own teaching staff and to promote harmony, unselfishness, and scientific endeavor to the highest possible degree.

I leave it to those who follow me to suggest more definite plans for your co-operation, but we must have it and have it now. Either through a special committee or through our Council a report of University needs and progress should be made annually, and this report should be a permanent feature of our programs. We of the University teaching staff are enthusiastic and confident, and the very amplitude of the field of our endeavor is an inspiration. With your help we shall build high for the present, and yet higher for the future of Minnesota medicine.

THE MEDICAL PRESS

By W. A. JONES, M. D.,

Editor of The Journal Lancet

MINNEAPOLIS

The old time epigram, "between the devil and the deep sea," might easily be transposed into the following sentence: "Vast numbers of the medical press, after passing through the hands of the devil, find an abiding place in the deep sea, a receptacle into which the doctor often throws his medical journal unopened and unread." Literally, this is not true. A large percentage of medical men religiously open and read their journals, and claim that they are profited thereby; but, unfortunately, there are many medical men who find too little time to read, or who are indifferent to current medical literature.

The medical press has many functions to perform, and it can do this work better if its readers take more than a casual interest in its contents. To further the interest it is the duty of the medical journal to offer its readers the best reading matter it can secure from men who have something to say.

In order that you may more fully realize what it means to conduct, publish, edit, and maintain a medical journal, you must be more or less

familiar with the details which are seldom given consideration by the average reader. It may seem an easy matter to prepare and deliver a magazine of any sort, but often before the final reading of matter for the paper is completed, many of its workers have brain-fag.

In the first place, it is necessary to secure suitable and readable articles, and particularly those that concern the general practitioner.

A journal that is published in a state, and depends for its support upon surrounding territory, must, of necessity, be broad in its scope and general as to its material. Journals of a special character, or that deal with special topics, have a more widespread circulation, but are read only by men interested in the one department.

It is safe to say, and this without any unkindly criticism, that there are comparatively few articles that come to the press office which do not need more or less revision and correction. This is due to various causes. Doctors are not noted as being good penmen, as a rule, and when they adopt the typewriter for their productions, they are, not infrequently, bad spellers. The result is that someone must do this work of correction; hence, it is sometimes difficult, in the revamping of an article, to preserve the idea which originated in the writer's mind, and which was expressed by him when he prepared the original matter. It is not always easy for one man to know definitely what another man actually means; and for that reason, sentences are involved, which, if put in good English, may change the original statement and yet not impair its efficiency. A writer may read from manuscript, and, by his inflection and phrasing, may convey his ideas clearly, but when it appears in type it reads like another article.

After this work of correction and revision has been done, the manuscript goes to the printer who, if experienced in medical topics, may return a fairly correct proof. This proof, however, is gone over by the proof-reader for typographical and other errors. A proof is then sent to the author for his revision and correction. This may necessitate a radical change again for the printer. It then passes through the hands of two to four other proof-readers before it is finally submitted for publication. Thus, in the resetting of the original article, the printer may make, and does make, errors, some of which can be corrected in time, and some of which remain a permanent defect.

The best papers are those that contain a few

new, or newly expressed ideas, put in an attractive and concise form. There is too much verbosity in medical literature, and, to the average reader, it is tiresome and uninteresting.

The editor of a medical journal cannot ignore the efforts of men who are anxious to express themselves in print. It is his duty to encourage writers, unless their productions are unfit for publication. Then, too, there are many men who are prolix medical writers, and who often present a timeworn subject for publication. It may become the duty of the editor then to decide whether such articles should be printed or not. Fortunately, in most medical journals there is a publication committee who share the responsibility of this work.

The journal should contain, aside from its usual articles, editorials on medical topics of the day, comments, criticisms, and such other ideas as may be of more or less interest, not only to the medical profession, but to the layman as well. The editorial department should be so conducted that the lay press may get a correct or, at least, a conservative idea of the efforts of medical men to improve the conditions of everything medical pertaining to public health and to the prevention and spread of communicable diseases.

The sole purpose, therefore, of the medical journal is not to cater entirely to local physicians, but to stand as an educational journal for lay readers, or for abstracts for the lay press.

The progress of medicine throughout the world cannot be presented in any one journal, particularly if its circulation is limited to a reasonably well defined territory. This journal should cover the local field, and bring its readers into closer touch with one another. It should contain some medical gossip, notices concerning the movements of its readers and subscribers, or the movements of others of wider repute; in fact, the local news in a medical journal should be made an attractive feature.

A journal that is under the direction of a state organization should be the medium for state conferences and state forces. The symposium, of which this paper is a part, shows what the State Association, by its proceedings and papers, may do for the advancement of state medicine.

The publication of the proceedings of the state organization shows what other men are doing and thinking, on the supposition that the average reader is interested in the work of a medical society which is concerned in the upbuilding of

state medicine. An organization of this kind, if properly manned, will educate a large number of people, but, as yet, physicians do not fully appreciate their possibilities.

If our readers would scrutinize the work of the state organization more carefully, and assist in its development, and educate their patients and the community in which they practice, they would assist all of the state forces amazingly. This cannot be too strongly emphasized, and if the State Medical Association is going to do anything to help medical legislation, it must be done by individuals, through individuals, and not by hues and cries in public. It is high time that a better and closer relationship should be established between the members of the Minnesota State Medical Association, in order that they may be called upon at any time to enforce their opinions before legislative bodies. They should always be ready and willing to aid in every way the interests of medical men for the benefit of the state at large.

The work of the State Board of Examiners does not receive the support it deserves. If, in the place of bitter criticism, the doctor would take an interest in the function of this important body, the whole profession would be elevated, and quackery quickly eliminated. As a matter of fact, the average doctor pays no attention whatever to the work of the Board of Examiners, and very few men are willing to assist them or the county attorneys in their districts in the prosecution of quack and criminal medicine.

The efforts of the State Board of Health need your heartiest co-operation. The time is coming when sanitary medicine will sweep over the country, and before many years we shall see in Washington a department or cabinet place for the federal control of sanitary science.

Until doctors and people are in accord there will be no national bureau of health. The people are willing and anxious to be educated in sanitary hygiene, but physicians are notoriously slow in giving their assistance.

The State Board of Control is not entirely a body of purchasers. They are seeing the needs of the state institutions, and are learning from medical men, in a quiet but very gratifying way. Most of our state institutions are superintended by medical men, and the State Board of Control, since its existence, has learned many valuable things, and the Board is co-operating now with other state forces in a way which they never did before.

The Medical Department of the State University deserves your earnest support. Each year the Department is turning out better men because of the advanced standard of admission, and the increased facilities for instruction. With the building of the University Hospital, the University Medical School will put itself on a much higher plane, and will offer to medical students an opportunity equal to that of any college of medicine. The academic side of the University is developing an interest in educational topics that concern medical men, as well as laymen. They have learned the necessity of educating the people to investigate the work of other departments.

No man can keep in touch with these forces unless he reads his medical journals, and it is the endeavor of the medical press, through its articles, its editorials, and its news items, to keep the reader informed of the methods and operation of these state forces.

A medical journal attempts to keep in touch with the latest discoveries in medicine, to call attention again and again to simple medical problems, to review topics that are read and forgotten, to offer suggestions for those of its readers who seek practical advice from experienced men, to constantly remind the profession of the importance and necessity of organization and the needs of medical legislation, to create harmony and good fellowship, to keep men informed of the movements and advancement of their associates, to attempt to unify the profession for their own good and for the good of mankind, to eliminate bitterness and strife, and to make medical societies a power in their community.

Incidentally, a medical journal must be supported financially. This must be done either by an advance in subscription price and the elimination of all advertising matter, or the presentation of advertising matter that is reasonably harmless or known to be trustworthy. This does not necessarily mean that drugs and remedies or special appliances alone are to be exploited, but other advertising matter that has some bearing on the doctor's life is permissible.

No journal with a limited subscription list because published in a circumscribed community, can ever be made a large paying investment. The effort to maintain a journal that is clean and respectable should be supported by the physicians of the state. To this end, we bespeak your hearty support for the medical journals of the State of Minnesota.

THE LAY PRESS

BY MR. H. V. JONES

Editor of The Evening Journal

MINNEAPOLIS

Mr. President and Gentlemen:

It has been demonstrated on many occasions that editors are poor speakers, and many people think they are poor writers.

I consented to come down here and talk for ten minutes on one idea. Perhaps we understand each other and will agree that both the press and the medical fraternity live in glass houses, and, under the rule, we have no right to pitch a stone at our neighbor, but perhaps if we throw one at ourselves we will be permitted to throw one the other way.

The press represents a great responsibility in this country, as does the medical fraternity. I think if we had with us today a representative of the law, we could say that these three professions hold the greatest responsibility to the people in their hands, for health, sound public opinion, and justice are the foundation of our government and our prosperity.

The only suggestion I have to bring you is this: I think the medical men of the state and the nation have been governed by their law too long. (Applause.) It has been my privilege of late to get a little insight into what you are doing in this state, and as a publisher of what is going on I have noted some of the work you are doing, but how little the people know of what you are doing! I am not informed as to what exact relations you have with the Medical Department of the State University, but I am sure there is a great work going on there that people should know about. I think perhaps the medical profession has been standing too long on ethics, and are acting on the theory that they have no right to be heard and should not speak out. If we were to speak in a personal sense perhaps there would be some merit in the theory, but I am sure, as a body, the State Association has a right to be heard, and has much to give out. One has only to listen to papers read at conventions like this to catch the drift of things. We see you are interested in great movements looking for light in taking care of the health of the people. You would be surprised if you gave it a little thought how little people know of what is being done in a practical way along these lines.

The newspaper and the railroad men have always gotten along very well together, for the

railroad man is generally ready to impart information that will result in a little advertisement, but when we come to the doctor we find it difficult to make much progress.

I think if we were to come closer together we would soon reach an understanding. There is nothing in the newspaper field that doctors need to be afraid of, and I am sure newspaper men would be glad to co-operate along the right lines with physicians. That work, to my mind, should be educational rather than the definite news of a newspaper. If I were to take time to discuss the shortcomings of the press I could suggest many things that would occur to you. The press has been too commercial the last few years, and we mean by that that there has been a letting down of standards, too much of a desire to make money at the expense of standard, but, if I observe rightly, I think a reaction has set in, not only on the part of the publishers themselves, but on the part of the people. I think there is less desire today for sensational news than there was five years ago. In any case, I think the publishers in this state are very well agreed that there is little room for the purely sensational; in turn, I think, there is work for the medical societies of this state to take up, in some way, a broad educational work, and I am sure of the hearty co-operation of the press of this state in the advancing of an educational movement.

I do not know just how to advise in a practical way the organizing of a movement of this sort, but I think that among yourselves you will agree that there is something in what we say, that if the people who have the spending of money along the lines you want them to spend it to carry out your ideas,—if they understood better what you are doing,—they would spend money more freely.

Now, it occurs to me that if you told the people what you are going to do with their money it would be interesting. We are getting suggestions from all quarters, and sometimes from unexpected quarters. We received a letter a few days ago from the western part of the state thanking us for our foreign editorials. So we find the people are reading sound stuff, and they will read what you have to say. The thought I would leave with you is that the publishers of the state will be glad to co-operate with the physicians of the state in a broad educational policy along the lines of the work you are doing, omitting names, if there is objection to their publication. (Applause.)

DISCUSSION OF THE PRECEDING PAPERS

DR. H. M. WORKMAN (Tracy): I think the Association owes a debt of gratitude to Mr. Jones for coming down here and delivering this instructive address. It voices the idea of the profession as to what the lay press should be and what it should do for the medical profession. I think it would be a good idea to have what we might term a co-operative committee which should get together in an endeavor to carry out the ideas suggested in these various papers that have been presented.

DR. F. F. WESBROOK, (Minneapolis): I had not expected to make any remarks upon this symposium, in which, however, I am sure we all take the deepest interest. To many of us it has appeared that with better co-ordination amongst these public factors for bettering medicine in the State, a much larger work might be done. I am sorry that the modesty of the representative of the State Board of Medical Examiners should have caused him to forget, in his enumeration, one very important function which his Board has performed, for many years, to the betterment of medicine in this state. I refer to the work of furnishing the State Association with the kind of membership which it has had and which leads Dr. McCormack and others to commend the State of Minnesota very highly. The high professional standard in Minnesota is due, in no small degree, to the exercise of this special function of the Board of Medical Examiners, and the title of that Board indicates the work it has to do. We should not forget that this Board required for licensure to the practice of medicine in Minnesota three years of medical preparation, at a time when there was only one college in the country which gave such a complete course. We should not forget, either, that in the rise in standard which is now sweeping the United States, Minnesota from that time to this has been a leader.

I was sorry that Dr. Tuohy was not permitted to finish, but I hope in discussion he will be able to enlarge upon the topics and relationships presented by him in such a striking and logical manner. However, the idea is not that each of these boards should co-operate with the State Medical Association alone, but that each force shall co-operate with the other; that is, that each one of these seven has the opportunity, of which it should take advantage, to co-operate with at least six other forces. There has been a good deal of co-operation for a long time in the state between two of these forces, namely, the State Board of Health and the University, and that at a time when co-operation was very important, owing to scarcity of funds and workers. This has been of the greatest possible value to both institutions, and, in many respects, we are the envy of other states that such co-operation has been possible of development. Co-operation in sanitary matters between the State Board of Health and the other state institutions offers a wide field. A

closer drawing together and better co-operation has been possible during the past few years between the University and some of the State institutions, as Dr. Tomlinson has hinted. This is, however, not enough. His modesty forbade him to tell you that the University medical students and some of the other University students, are taken to his own institution and the institutions at Faribault, in order that they may see the details of the special work under the Board of Control. This is of especial importance to students of medicine who, within the first few days of their practice, may be afforded the opportunity of giving advice of paramount importance to their patients and families, and who are better fitted to do it by knowing what the State provides in the way of care and treatment. The University thoroughly appreciates the opportunity which the workers in the State institutions have afforded.

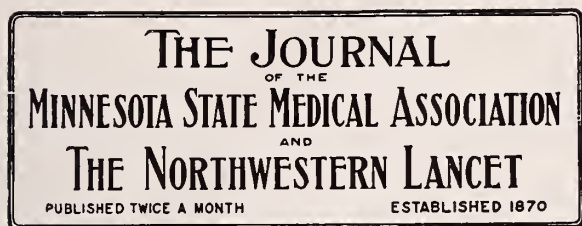
Dr. Tomlinson has criticised this Association for its failure to know more fully the work of the institutions under the Board of Control. He is quite right and would have rendered himself justly liable to criticism had he kept quiet about the matter.

I think the suggestion for the appointment of a committee to further this purpose is most admirable.

DR. CHAS. L. GREENE (St. Paul): As has already been said, we are under great obligations to representatives of the press with us today, but I have wondered how far our members have realized the change that has taken place in the attitude of the daily press and the monthly magazines in the last few years. As Mr. Jones has said, the people are looking for information, and that information of the right kind. If I am not mistaken he was the first man to adopt the plan of issuing a thoroughly clean lay journal in the Twin Cities, and it is a matter upon which he should be congratulated.

I believe the co-operation of the press according to a proper and legitimate method would greatly aid us in our efforts and give us more to hope for in the way of proper medical education of the people than anything else we have to look forward to today.

DR. E. L. TUOHY (Essayist): If the State Board of Medical Examiners is backed up by the right kind of a law and the proper support from the members of the Association, it is certain, on the one hand, that we shall maintain a high standard of practice, and that, on the other hand, the quacks and fakirs will be eliminated. It is for us to accept the suggestions of the Board of Medical Examiners and help to accomplish this latter result. The next natural step is to keep the rank and file of the profession up to date. The Board of Examiners will see to it that no one without the proper equipment of knowledge and morals will be allowed to practice. The University will train the new men for the work; and so let us also utilize it for a greater work of keeping the entire profession of the state united and trained.



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MARCH 1, 1910

THE SUPREME COURT UPHOLDS THE STATE BOARD OF HEALTH

An important decision was handed down by the Minnesota Supreme Court on February 10th, affirming the right of the State Board of Health to close the rendering-plant of the J. T. McMillan Company, of St. Paul.

Some time ago complaints against this Company were received at the Secretary's office; and after serving notice of a hearing on the matter before the full Board, the Company presented their objections. At the hearing several witnesses were heard, but the Company made no effective effort to correct their defects and treated the matter lightly.

When the notice from the Attorney-General's office was sent out the rendering-company filed its answer. Outside of some technical points the principal contention of the Company was that the law under which the Board closed the plant was unconstitutional because it deprived them of their property without due process of law, and because the right of appeal was impaired.

The court says that the Company had due notice and a hearing, and the action of the Board

was not taken without competent evidence. The Company objected to the part of the law which requires the plant to be closed pending the appeal. The court answers that the legislature had to consider two questions, the public welfare and the Company's financial good. The former was the more important, and therefore the legislature decided that the plant should not be allowed to operate during a long appeal after it had once been declared a menace to public health, but the law is not unjust to the Company, for it provides for the hearing of the appeal within twenty days and provides for a special term of court if the regular term does not convene within twenty days.

Furthermore, the court says that the right to appeal is not a natural or a constitutional right, but a statutory right, so the law would not have been unconstitutional even if it had provided no appeal. But the appeal provided is reasonable, says the court.

The decision is of the greatest importance to the State Board of Health as it affirms its power to condemn any establishment which is a nuisance or a menace to public health. It also means that the State Board of Health has wide police powers and now can safely proceed against other public health destroyers.

The decision will stiffen the backbone of many local health officers. Less timidity will be encountered because of the power and authority of the State Board.

So far the Board has not been sure of its ground and for some time has been anxious to have its regulations settled.

This decision may be the entering wedge for the protection of lakes and streams, and if any community is particularly solicitous in determining the healthfulness of the Mississippi River it might be well to try it out in the courts. It is feared that this great river would have a hard time in maintaining its purity and dignity if brought before a bar of justice!

CONSERVATION OF HUMAN LIFE

The conservation of human life has at no time received so much attention as recently. The organized associations for charitable purposes are found even in small towns, and the amount of time, money, and energy expended each year in this way is enormous. Preventive medicine has taken high rank with physicians, and much effort has been expended in freeing the earth from certain infections, so that regions, such, for instance, as Panama, formerly almost uninhabit-

able by white men, are now comparatively safe. It is confidently predicted that the time will come when the typhoid and tubercle bacilli and the plasmodium malarie and other organisms of their kind will have ceased to trouble mankind, and it is even promised that when we have succeeded in disposing of these pests the way will have been prepared for the superman.

Whether we are justified in expecting so much from the mere eradication of certain germs is doubtful, and whether such matters as luxurious living and limitation of reproduction, which seem inherent in the most highly developed civilizations of any age, are not factors of very great importance in the degeneracy which has overtaken every race, sooner or later, is worthy of consideration, but even granting that the distant future holds in store a type of citizen of which we have not so far even dreamed, it is certain that in the present, much of our charitable work finds its chief result in perpetuating individuals highly undesirable in the community. In former times the natural process of survival of the fittest constantly weeded out the weaker individuals, and the race was constantly reproduced from its stronger elements. The very fact of the artificial preservation of the weak, therefore, necessitates that something should be done to prevent their procreation. Only the excessive sentimentalist with atrophied reasoning powers believes that proper environment is sufficient to overcome the effect of bad heredity, and, however creditable it may be to the heart of the average citizen to rescue his weaker neighbor, it is highly discreditable to his judgment to believe that the offspring of that weakling will not also show a tendency to weakness. No stock-raiser would consider for a moment, the propriety of breeding from the weaker members of his flock, and if the human race is to continue and to improve, it is necessary that something be done to save us from the reproduction of a certain element in the community, which, if left to itself, would, in the natural course of events, have largely disappeared.

To accomplish this is by no means an easy task, but so far as our present viewpoint permits us to judge, any improvement must lie in the field of marriage regulation and the sterilization of habitual criminals and hopeless degenerates, and to this subject medical men will do well to devote some thought and attention.

IMPORTANT NOTICE

To the Secretary of Each State and County Medical Society, and Other Interested Members:

At the last meeting of the American Association at Atlantic City the following report of the Committee on Miscellaneous Business was adopted: "The Committee recommends that the President of this Association appoint a committee of five members to inquire into the desirability and practicability of the establishing under the auspices of the American Medical Association of a fund for the assistance of physicians disabled by sickness, and for a sanatorium for the treatment of such members of the Association as may be afflicted with tuberculosis or similar diseases, such committee to report to the House of Delegates at the next annual meeting of the Association."

As a basis for wise action the Committee urges that the officers of State and County Medical Societies and others interested in the subject should, at the earliest possible date, forward to the Secretary of the Committee, Dr. A. C. Magruder, Colorado Springs, Col., answers to the following queries, with some account of any special cases that seem to illustrate the need for provision for disabled members of our profession:

1. Is there any provision by your State Medical Society or local society for the care of destitute and disabled physicians and those dependent upon them? If so, how is such care provided?

2. What number of instances of special need for such assistance or sanatorium treatment have arisen within your locality in the last five years, and what number of your members need such assistance now?

3. About how many members of your County Medical Society are at present afflicted with tuberculosis or similar diseases, or have, within the last five years, died or withdrawn from professional work on account of such disease?

It is earnestly requested that this matter be brought before each County and State Society at its next regular meeting, and that the desired information be furnished our committee at the earliest possible date.

Fraternally yours,

EDWARD JACKSON, Denver, Colorado.

JEFFERSON R. KEAN, Washington, D. C.

A. T. BRISTOW, Brooklyn, N. Y.

H. B. ELLIS, Los Angeles, California.

A. C. MAGRUDER, Secretary, 305 N. Tejon St., Colorado Springs, Colorado.

The Publication Committee of THE JOURNAL-LANCET request the secretary of each component medical society to promptly answer all of the above questions, in order that the committee may have as full data as possible for their report.

In line with this notice the secretaries of each county and district society are informed that the roster of their societies must be in the hands of the State Secretary (Dr. Thos. McDavitt), together with the dues of \$3.00 for each member, on or before April 1, 1910; that these dues include medical defense; and that unless this is in the hands of the State Secretary by April 1, 1910,

they are not protected until the dues are received, as they receive credit only from the time dues are received at the office.

This must be clearly understood, for, under the provision of the By-laws, no retroactive protection is possible.

Notwithstanding the fact that this matter of \$3.00 dues covering protection in malpractice has been made prominent in THE JOURNAL-LANCET on several occasions the State Secretary is constantly receiving letters asking for information.

Heretofore the dues have been \$2.00, but at the last meeting of the State Association \$1.00 was added, solely for defense in malpractice suits.

With these notices before you, it behooves you to attend to these matters at once, in order to prevent confusion and delays.

BOOK NOTICES

A PRACTICAL TREATISE ON OPHTHALMOLOGY.

By Fox L. Webster, M. D., L. L. D., Professor of Ophthalmology in the Medico-Chirurgical College; Ophthalmic Surgeon in the Medico-Chirurgical Hospital, Philadelphia, Pa.; Member of the Army Reserve Medical Corps. With six colored plates and three hundred illustrations in text. 807 pages. D. Appleton & Co., New York and London, 1910.

The above volume may be considered a second edition of the author's former work on "Diseases of the Eye," with numerous additions, both to text and illustrations. In the present volume the author has presented a very comprehensive treatise covering the entire subject of ophthalmology, including references to researches and advances that have been made in this branch of medicine and surgery during recent years. The operative work is well illustrated and the various operative procedures clearly, though somewhat briefly, described.

A valuable text-book addition to the subject of conjunctival diseases is a chapter on the bacteriology of the conjunctiva in which the microorganisms, found in the conjunctiva in health and disease, are carefully classified and described.

The chapter on cataract extraction is well illustrated, and the various methods of extraction are well described. Reference is made to the method of extraction of the lens in its capsule, as practiced by Major Henry Smith, of Jullundur, India, and the steps of the operation are very briefly described.

In the chapter on diseases of the lacrymal apparatus the author covers, quite thoroughly, the therapeutic and operative treatment and gives a concise description of the technic for removal of the lacrymal sac as practiced in the Vienna Clinic.

In the chapter on color-perception and color-blindness the author presents the recent theories in regard to color-perception and color-blindness and describes clearly the various tests for their detection.

In the chapter on localization of foreign bodies in the eye the various methods employed to locate accurately the foreign body are referred to, and the author's localizing apparatus is described, and the different methods of removal of the foreign bodies are given.

A valuable addition to the present volume is a chapter devoted to the ocular manifestations of general diseases, in which the author discusses the influence on the eye of constitutional diseases, diseases of the digestive tract, aural diseases, gynecologic affections, affections of the male generative organs, infectious diseases, affections of the lymphatic glands, diseases of the respiratory tract, diseases of adjacent sinuses, diseases of the skin, cardiovascular diseases, as well as a chapter devoted to the ocular manifestations of nervous diseases.

In a chapter devoted to laboratory technic, the author describes the equipment necessary for the preparation and preservation of macroscopic and microscopic specimens and gives, in considerable detail, the methods employed in preparing specimens for examination and the different methods of staining microorganisms.

The book is recommended as a text-book for both students and practitioners of medicine.

OBSTETRICS. A MANUAL FOR STUDENTS AND PRACTITIONERS. By David James Evans, M. D., Lecturer on Obstetrics and Diseases of Infancy, McGill University. Second edition. Lea & Febiger, Philadelphia.

The reviewer sometimes wonders why these smaller works are produced; for, inevitably, much of importance must be slighted, but on the other hand they serve as a protest against much of the "padding" of some of our more complete works. If there is a demand for "pocket editions" of scientific works, this is a very good one of its kind. It is concise, well written, clear, scientific, and, in most respects, up to date. There are some subjects which the author has attempted to epitomize which are incapable of be-

ing "boiled down," such, for example, as embryology. His description of the modern idea of the implantation of the ovum could hardly be made more clear. The ubiquitous fetus ovum is there, but the cut is so bad that it gives absolutely no idea of what fetus ovum looks like. When one is borrowing illustrations from other works good ones might just as well be selected. The cuts illustrating some positions and presentations are very poor and misleading.

The book deserves commendation for the chapter on the mechanism of labor, which is lucid and omits nothing of importance.

The author takes advanced ground on obstetric asepsis and has this to say of vaginal examinations: "In cases in which the pelvis is normal and vertex firmly engaged in the brim and fetal-heart sounds are normal, vaginal examination is not necessary. There is little occasion to make a vaginal examination in the second stage of labor."

The reader is very wisely referred to the larger works for his knowledge of toxemia. If the author had done this with some other subjects which suffer irreparably by attempts at epitomizing, the book would have been even more valuable.

Taken altogether, the work has fewer things in it to criticize than most of the short works on this subject, and fewer than some of the so-called complete works.

THE DIAGNOSTICS OF INTERNAL MEDICINE. By G. R. Butler. Cloth; pp. 1193. Five colored plates and 272 illustrations and charts. D. Appleton & Co., New York and London, 1909.

The appearance of the third edition of Dr. Butler's book within a very few years, demonstrates that it has met with public approval, and that it is kept up to date. The first portion is given over to a brief consideration of the anatomy and physiology of certain organs and a review of the methods of diagnosis. The remainder of the book is divided into two parts; one dealing with the various signs and symptoms which are encountered in the practice of internal medicine, with the diagnostic significance of each; and a second part giving a brief description of the symptoms of each disease, followed by its differential diagnosis. As a rapid means of assisting in the diagnosis of a given condition the book is most excellent, and there are few physicians who could not profit greatly by its frequent perusal. The author even ventures to hope "that the book contains between the two covers practically all that is essential for

the making of a diagnosis and that no helpful clew in obscure cases has been over-looked."

Important additions in this edition are a description of the recent tuberculous tests, a section on life insurance examinations and a section on diseases of the tropics.

Though containing practically everything of value in the newer methods of diagnosis, by a judicious elision of obsolete methods the book is kept down to a workable size. As was true of the former editions, the plates and illustrations are numerous and clear, and the typography is excellent.

REPORTS OF SOCIETIES

MINNESOTA ACADEMY OF MEDICINE

The Academy met Wednesday evening, February 2d, at the Minnesota Club, St. Paul. Dinner was served at 7:15, and the meeting was called to order at 8:15 in the club parlor.

Dr. L. A. Nelson exhibited three patients who had recently suffered from wounds of the eye.

Dr. Cornelius Williams related a couple of cases in his experience of a similar character.

Dr. J. G. Cross reported a case of trichinosis, and showed pictures (photomicrographs) of the parasite found in the blood taken from the ear.

Dr. C. H. Hunter referred to a case of trichinosis developing in a boy who, in feeding meat in a chopper, had his finger cut off. The question arose as to whether the disease had been transmitted through the wound or through its ingestion in the usual way.

Dr. A. W. Abbott reported a case in detail of "Acquired Diverticula of the Sigmoid."

Dr. Gilfillan said that within the last year he has seen three cases of this character, and he is of the opinion that they are not so rare as has been supposed, only they have not been recognized.

Dr. J. T. Rogers referred to a case in his experience in which he had found a stricture of the rectum complicated with a diverticular abscess.

Dr. Abbott emphasized the point that the occurrence of stone is not necessary to the formation of the diverticulum. He also stated his belief that these cases are not so exceedingly rare, but we are not looking for them.

Dr. Arnold Schwyzer related in detail a case in which he had operated for gall-stone. It proved to be a very small stone in the cystic duct. It became necessary to remove the gall-

bladder, together with this portion of the duct. Owing to an anomaly in the anatomy a portion of the common duct became involved, and a portion of it was removed. The doctor will publish the case in full at a later date.

Dr. A. W. Abbott referred to two cases in his experience in which he had found an anomaly in the gall-ducts. In both cases the cystic duct ran down into the common duct and within its sheath.

Dr. A. T. Mann reported a case in which violent infection had followed an alveolar abscess. The doctor in attendance had attempted to extract the tooth and had broken it off. Multiple abscesses formed in the neck and elsewhere, followed by coma, exhaustion, and death. Dr. Mann reported also a case of appendicitis operated upon three weeks after illness. Improvement followed, but later on a pleurisy developed, which was aspirated and a cup of clear serum withdrawn. Following this an abscess of the liver formed. This was opened and drained after great difficulty in finding the abscess-cavity. Improvement followed for a time, but the case finally terminated in death.

Dr. H. B. Sweetser stated that he had had three cases of abscess of the liver following appendicitis. All of these cases had a long history between the appendicitis and death.

Dr. A. W. Abbott emphasized the point that in abscesses of the liver of this type one does not find induration of the liver about the abscess.

Dr. Frederick Leavitt read a paper entitled "Hydatidiform Mole, with Report of a Case." The paper was discussed by Drs. Cates, Litzenberg, Gilfillan, and Dunning.

A. W. DUNNING, M. D., Secretary.

LYON-LINCOLN COUNTY SOCIETY

The Society met at Tracy on February 1st, with five members present. The meeting was largely a social one, the only business being the election of officers, which resulted as follows: President, Dr. A. J. Cox; vice-president, Dr. T. Thordarson, Minneota; treasurer, Dr. C. E. Persons, Marshall; secretary, Dr. H. M. Workman, Tracy. Delegates will be elected at the July meeting.

H. M. WORKMAN, M. D., Secretary.

CAMP RELEASE DISTRICT SOCIETY

The Society met in Minneapolis, in the rooms of Hennepin County Society on January 27th, with five members present.

Clinics were given at the City Hospital by Dr. S. Marx White on "Heart Complications in

Rheumatism"; by Dr. J. G. Cross on "Pernicious Anemia"; and by Dr. J. P. Sedgwick on "Pediatrics, with Especial Reference to Infant-Feeding."

The next meeting will be held April 28th at Montevideo.

R. D. ZIMBECK, M. D., Secretary.

NEWS ITEMS

Dr. A. G. Sanderson has located at Ruthlon.

Dr. H. R. Thurber has located at Esmond, N. D.

Dr. A. L. Kuskee, of Sanborn, has moved to Chisholm.

Dr. George M. Sewall has moved from Deerwood to Idaho.

Dr. Henry Kruger, a recent graduate, has located at Crooks, S. D.

The new chapel at St. Mary's Hospital, Rochester, has been completed.

Dr. Thomas Arneson, of Frederick, Wis., has located in Balaton, in this state.

The hospital at Park Rapids has been reopened under new management.

Dr. J. P. Dougherty, formerly of Wabasha, has located in Sioux City, Iowa.

Dr. George C. Hanson has located at Charlson, a new town of North Dakota.

Dr. F. R. Woodward has been chosen chief of the Asbury Hospital staff, Minneapolis.

Dr. Harry W. Merrill, who formerly practiced at Pipestone, died last month at Maywood, Ill.

Dr. F. M. Dryden, of Euclid, was married last month to Miss Nellie Brock, of Lawrence, Kas.

Dr. G. L. Gosslee, of Wabasso, has moved to Lamberton and takes the practice of Dr. Kuskee.

Dr. A. L. Kuskee, who has been practicing at Lamberton for a couple of years, has moved to Hibbing.

Dr. Mary E. Green, widely known as a physician and lecturer on foods, died last month at Seattle, Wash.

Dr. John Jackola, of Duluth, has returned from Germany, where he has been for a year for post-graduate work.

Dr. Arthur C. Leslie has located at Brook Park. Dr. Leslie is a graduate of Hahnemann of Philadelphia.

Dr. W. A. Lumley, of Renville, has decided to retire from the practice of medicine and become a banker.

The new hospital for contagious diseases at Duluth has been opened, and is pronounced a credit to the city.

Dr. Wm. T. DeCoster has moved from Win-
dom to St. James, where he has opened the St. James Surgical Hospital.

Dr. J. D. von Berg, of Albert Lea, has returned from Philadelphia, where he has been doing post-graduate work.

Dr. Arthur Kahala has purchased the practice of Dr. Edwin Seguin at Pierz. Dr. Seguin will move to New Munich.

Dr. Samuel E. Sanderson, Minneota, died last month at the age of 60. He had practiced at Minneota for thirty years.

The hospital at Aitkin has been closed. It was backed by the business men of Aitkin, and they suffer considerable loss.

Dr. Henry J. Waite, one of the oldest physicians in Minneapolis, died last month at the age of 80, death occurring on his birthday.

Dr. A. G. Sanderson, who has been upon the staff of the St. Peter State Hospital, has located at Ruthton. Dr. Sanderson is a recent graduate of Bennett.

Dr. D. S. Fleishbaur, of Reed City, Mich., has purchased the practice of Dr. J. T. Asbury, of Wabasha. Dr. Fleishbaur is a graduate of the medical department of Cornell University.

The Ramsey County Medical Society elected the following officers at its last annual meeting: President, Dr. Warren A. Dennis; vice-president, Dr. J. S. Gilfillan; secretary-treasurer, Dr. Frederick Leavitt.

A St. Cloud paper says the Stearns-Benton County Society has made a black-list of men in the two counties who do not pay their bills, excluding all who are unable to do so. The list contains 600 names.

Supt. Randall of the St. Cloud Reformatory has reported to the governor that every one of the 55 inmates of that institution is mentally defective, this fact having been discovered by a committee of alienists.

"Dr." James Austin Larson, the "teleconi" healer who found a rich harvest in St. Paul two years ago, is in jail at Pittsburg for obtaining money of the weak-minded, and giving them only promises in return.

Dr. G. C. Barton, of Minneapolis, has returned from a trip around the world. Dr. Barton made many visits to the hospitals of the Orient, and we hope our readers may soon read an account of what he saw.

Dr. H. O. Collins, City Physician of Minneapolis, has chosen the following internes for the City Hospital: Max Seham, M. Piper, Frank Clay, Leon Petit, Leon Smith, and Henry Lysne. Dr. Frank Souba, of Hopkins, will have charge of the pathological department for one year.

The Minnesota Wiener Medical Verein held its annual meeting last week at the Kaiserhof in Minneapolis. Toasts were responded to by Drs. C. H. Hunter, Frank E. Bissell, A. B. Cates, J. C. Litzenberg, M. P. Vander Horck, John Fulton, Knox Bacon, Emil Geist, C. A. Erdman, W. J. Byrnes, F. E. Sweitzer, all of the Twin Cities; and by Dr. W. L. Beebe, of St. Cloud, and Dr. J. W. Robertson, of Litchfield.

FOR SALE

A \$4,000 practice in a southwestern Minnesota town of 300 with a large surrounding territory, and with the nearest competition nine miles. Practice, Ford auto, and two building lots, \$1,500 cash. Do not write unless you want to buy. Address W. H., care of this office.

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Small hospital with good surgical and medical practice in German-American community. Large territory. Hospital well equipped. Practice with hospital brings eleven to twelve thousand dollars a year, clear. A snap for a doctor who is willing to work. Terms right; must leave on account of sickness. Address K. G. care of this office.

FOR SALE

Give me an offer for a Betz 16 plate Static machine, with accessories. Information on request. Box 221, Blackduck, Minn.

Doctor, if you want practical postgraduate work during fine season in the delightful city, write for particulars. New Orleans Polyclinic, P. O. Box 797, Postgraduate Dept., Tulane Med. College.

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bridges the gap between the severe simplicity of Mission or Arts and Crafts and the classic styles.

Made in fumed oak its design and treatment satisfies, where the plainer styles for many purposes are lacking.

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We show a very pleasing assortment of "*Flanders*" for the bedroom, dining room, den or library at popular prices.

We also make a splendid showing of period furniture, Louis XV, Louis XVI, Sheraton, Chippendale, Italian and Flemish Renaissance, showing by means of photogravures over two thousand pieces of Berkey & Gay furniture alone.

We will be glad to have you call and examine it.

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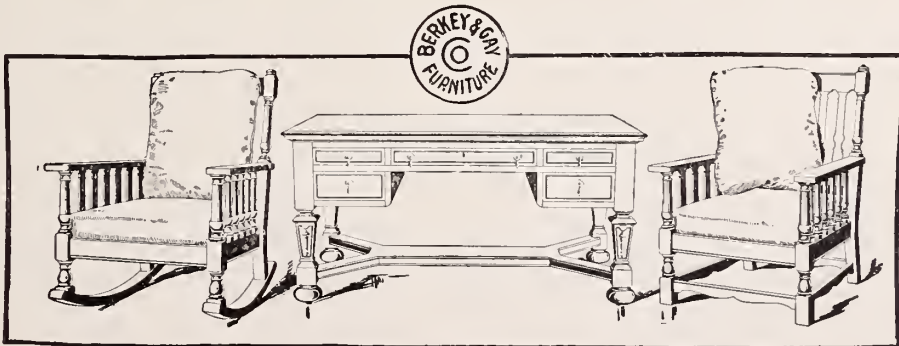
FLANDERS FURNITURE Its Historical Origin

THE style of furniture called "*Flanders*," originated in a province of that name composed of a part of Holland, Belgium and northern France. It was made at the close of the 16th, and the first part of the 17th Century.

The best designer of woodwork of that period was Vreedman de Vries; the greatest painter, Peter Paul Rubens; and the most active center of production, Antwerp.

After a short period of imitation of Italian woodwork, made principally of walnut, they devised for their own native oak a style so appropriate to this material that it was borrowed under various names by the surrounding nations using such wood.

The Louis XIII. in France, the Elizabethan and Jacobean styles in England are so strongly inspired by it that it is often difficult to identify the country where such work was produced.



PUBLISHER'S DEPARTMENT

ECHITONE

The attention of our readers is especially called to Echitone, a preparation of the highest ethical standard, made by Messrs. Strong, Cobb and Company, of Cleveland, Ohio. It has long been prescribed by many leading physicians for the severest cases of psoriasis, eczema, syphilitic ulcers, and like troubles.

The Company will gladly furnish the formula and literature to any physician desiring the same.

A REMARKABLE REPORT FROM DR. BROUGHTON'S SANITARIUM

Dr. R. Broughton, a physician of high standing among the physicians of Rockford, Ill., has long conducted in that beautiful city a sanitarium for persons addicted to the use of drugs, including alcohol.

In 1907 220 persons were treated, and of these, 164 took the full course of treatment and complied with all the requirements of the sanitarium. Of the alcoholics 82 per cent have remained cured for two years after treatment, and 68 per cent of those addicted to opium showed equally good results. The failures are not concealed, but for most of them reasonable causes are shown.

The report is interesting and valuable.

THE POTTENGER SANATORIUM

There is probably not a sanatorium in this country more beautifully situated than the Pottenger Sanatorium, located at Monrovia, California. The illustration that appears in the announcement of the sanatorium on another page, is much too small to show the beautiful mountains in the background and the valleys in the foreground. The institution is only a few miles from Los Angeles, and hence is in the choicest climate of California for the tuberculous patient.

The buildings are modern and are constructed upon the most scientific plan; and the care and treatment of patients assure speedy help and recovery to all who have not passed the hopeless stage of the disease.

We can conceive of no more cheerful or helpful place to send one suffering from tuberculosis; and we advise our readers to make the acquaintance of the conductors of this model institution.

DANGER IN ELECTRIC WIRING

The danger from fire caused by defective electric wiring is very great and very real; and the only safeguard against it is the employment of skillful and reliable men to put in the wiring.

The W. O. Hartig Electric Co., of Minneapolis, who have long been doing much of the work in the best houses in this city, have always given special attention to the subject, and they are pleased to announce that they can now offer additional security in all their work, as Mr. Charles W. Arrick has become associated with the Company. Mr. Arrick has been connected for several years with the Minneapolis City Inspection Department, and has been a terror to careless workmen in this line. He will have personal supervision of all electric wiring done by the Company, and this is a well-nigh absolute guarantee that all

danger will be eliminated from every job given to this Company.

The Company has offices at 402-404 First Ave. South.

AN EVENING WITH SEED CATALOGUES

The writer was examining seed catalogues the other evening with a view to extracting from the potentialities of their contents things of beauty and usefulness, together with a large amount of that vigor of body and mind which always comes when one cultivates the soil with a cheerful heart.

A feeling of almost despair followed, for many catalogues seemed to have the very best of every kind of seed, whether flower or vegetable; and the illustrations and testimonials apparently proved it.

What shall be the test he said to himself? A careful comparison of the claims of each catalogue on some familiar things soon convinced him that these growers of flowers and vegetables, these creators of new varieties of plants that produce things good to look upon and good to eat, had called in the modern advertising man to gush over something he knew nothing about. In despair and disgust the searcher turned away from these "hifalutin" adjectives and pictures, and settled down to make a list from the 72d annual edition of Dreer's Handbook, thankful that the moderate praise of the things he knew about was ample evidence that the greater praise of things new gave promise of more joy in his garden of 1910. And then, too, the satisfaction hitherto found in the Dreer seeds, by himself and his friends, was not to be forgotten, and the certainty of getting the best is always a satisfaction, even though something better than the best is promised.

In all seriousness, the exaggeration of the rival seedsmen is to be deplored, and its continuation should be frowned upon—yes, boycotted. We feel like bowing to the firms that will not resort to it, and foremost among such firms is Henry A. Dreer, of Philadelphia, whose Garden Book for 1910 is a mine of information to the seeker after good seeds and to the cultivator when his seeds are in the ground.

CHRONIC CYSTITIS

F. I. Gramenitzkij describes in *Russkij Wratsch*, 1909, No. 44, thirteen cases of cystitis of greatly varied pathogenesis. Nearly all of them were successfully treated by cleansing the bladder with a 3 per cent solution of boric acid, followed by intravesical injections of 100 c.c. of a 1 per cent Collargol-solution which most of the patients were able to retain until the next micturition. Only in two cases of chronic cystitis, one of gonorrheal origin, and one due to prostatic hypertrophy, the patients could not retain more than 50 c.c. of the Collargol-solution. In one case of tubercular cystitis in which both kidneys were involved, the result was negative, while in another similar case, in which only one kidney was involved, Collargol, after removal of the latter, exercised a very beneficial influence upon the tubercular infection of the bladder. The author considers Collargol a valuable therapeutic agent in cystitis, whenever the process is limited to the bladder. He also calls attention to its excellent hemostatic properties and accords to Collargol, also in this respect, first place among the silver preparations.



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Laboratory of Dr. C. W. Drew, Chemical and Sanitary Expert.
Minneapolis, Minn., April 9, 1904

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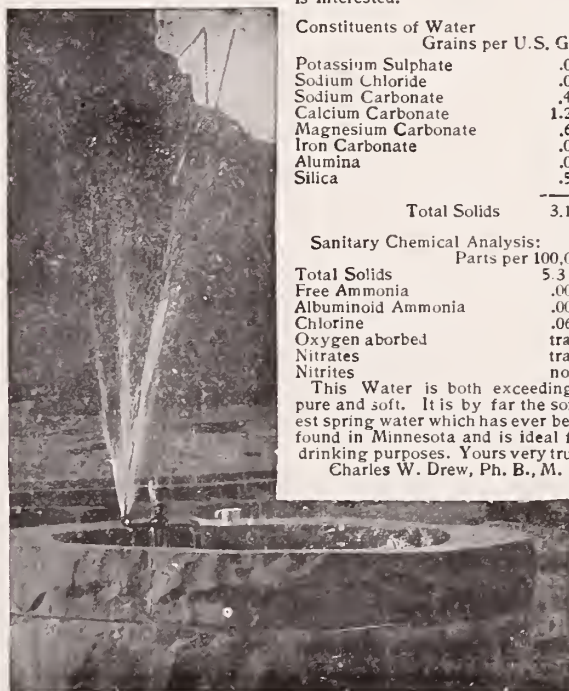
Gentlemen:—The following are the results of an analysis of a sample
of water from the spring at Sandstone, Minn. in which your company
is interested.

Constituents of Water	
	Grains per U.S. Gal.
Potassium Sulphate	.042
Sodium Chloride	.057
Sodium Carbonate	.431
Calcium Carbonate	1.294
Magnesium Carbonate	.667
Iron Carbonate	.016
Alumina	.012
Silica	.581
Total Solids	3.100

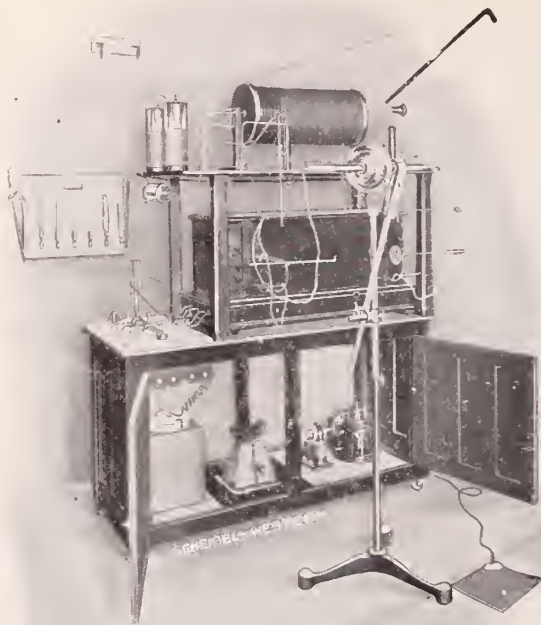
Sanitary Chemical Analysis:
Parts per 100,000

Total Solids	5.3
Free Ammonia	.0006
Albuminoid Ammonia	.0025
Chlorine	.06
Oxygen absorbed	trace
Nitrates	trace
Nitrites	none

This Water is both exceedingly
pure and soft. It is by far the soft-
est spring water which has ever been
found in Minnesota and is ideal for
drinking purposes. Yours very truly
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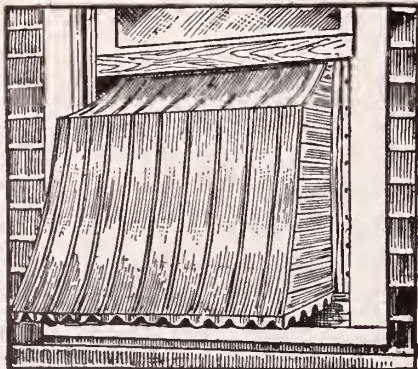
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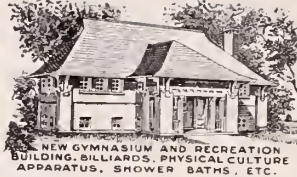
College opens September 14, 1909. The equivalent of two years full work in the College of Science, Literature and the Arts of the University which must include physics, chemistry, German or French, and biology or botany, is a prerequisite to entrance into the College of Medicine and Surgery, after which 4 years of 36 full weeks of graded medical instruction must be spent in laboratory, hospital and dispensary work. The college occupies six fully equipped, modern buildings on the University Campus and an out door patient department near by. A similar dispensary in St. Paul and all the hospitals in the Twin Cities and certain others in the state, are fully utilized. Through bequest, private donations and State funds, a large hospital on the University Campus will provide additional facilities to those of the temporary hospital which has been in operation for some months. Two new medical buildings are in the course of construction.

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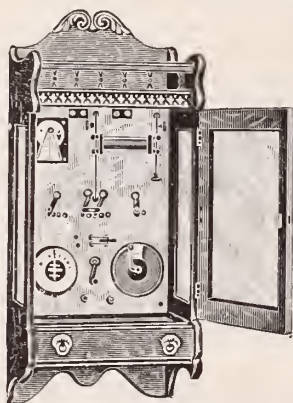
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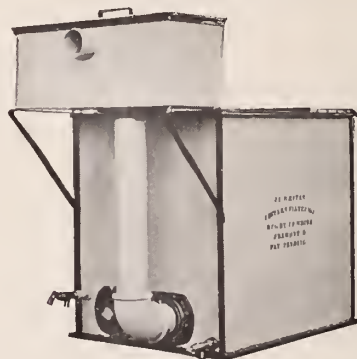
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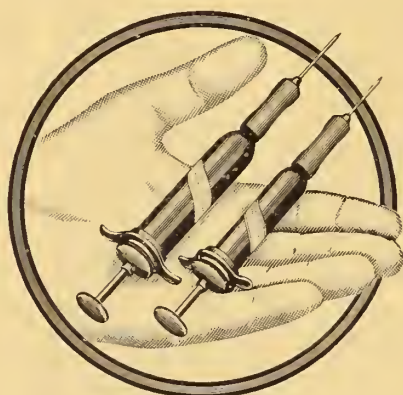


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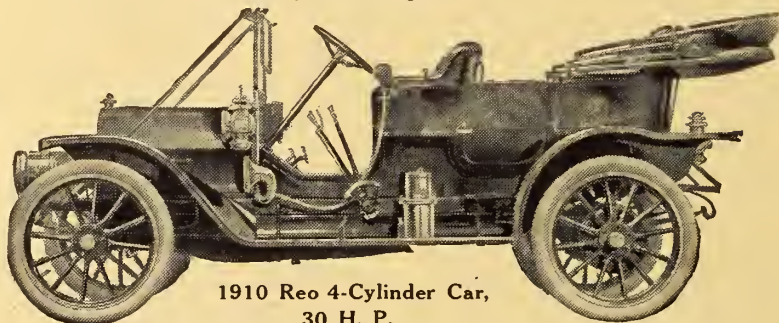
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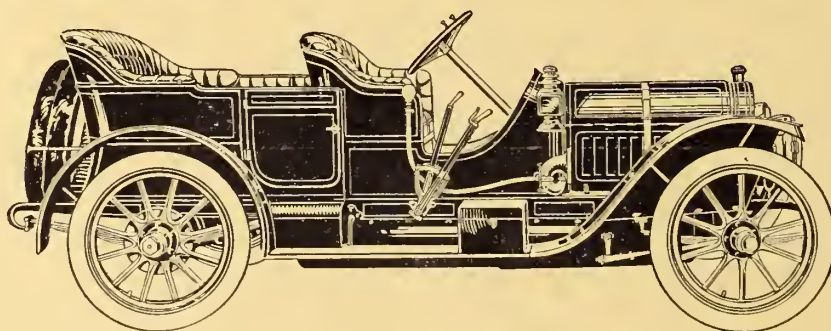
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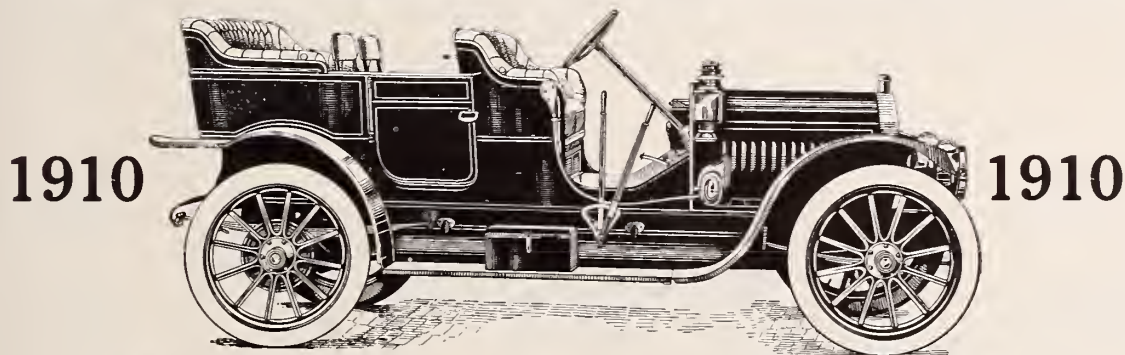
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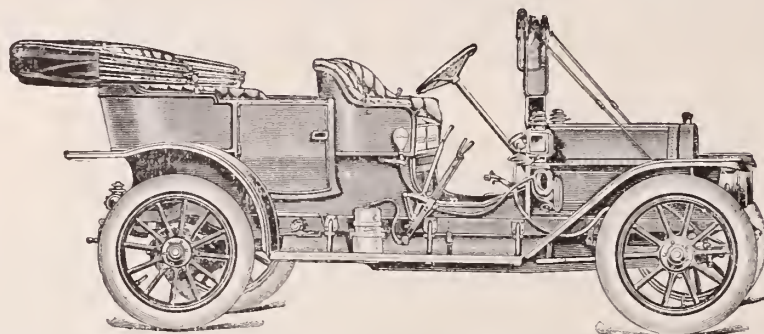
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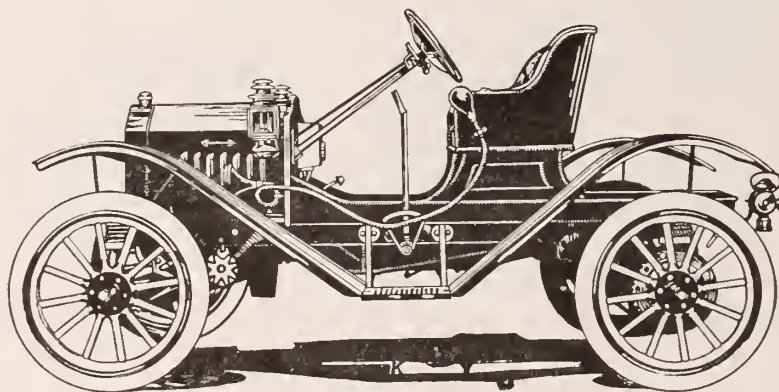
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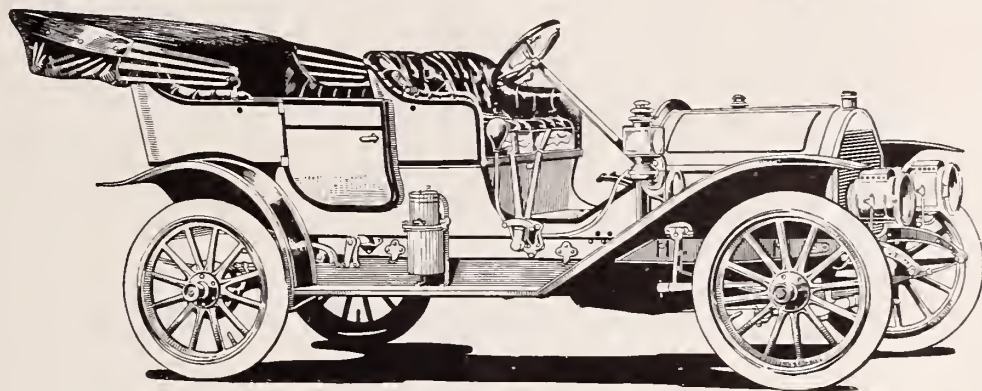
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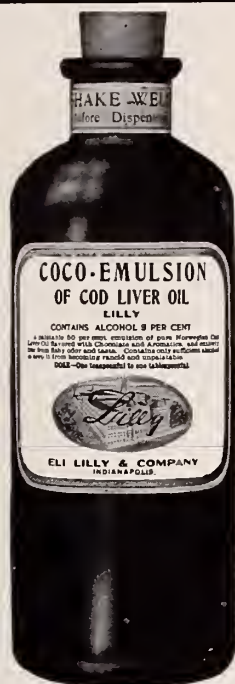
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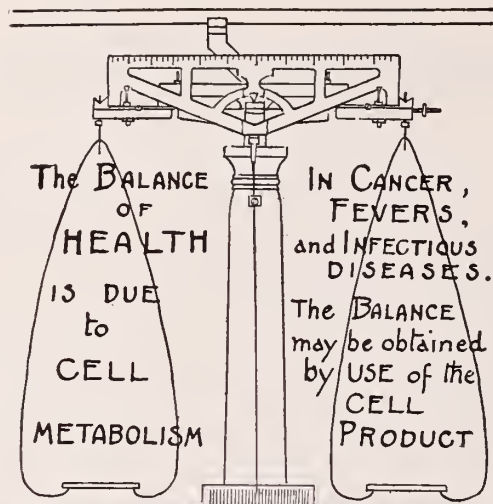
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THE CONTAGIOUSNESS OF POLIOMYELITIS*

By H. W. HILL, M. D.

Epidemiologist of the Minnesota State Board of Health

MINNEAPOLIS

This report should be a complete account of the studies made by me, as epidemiologist of your Board, on the recent outbreak of poliomyelitis in this state, but sheer inability to find time in the midst of other duties has forced me to confine it to a consideration of a part only, and I selected that part dealing with the determination of the contagiousness of poliomyelitis as the most immediately important and practical.

In this investigation I visited twenty-seven different places (in many cases making side trips into the surrounding country). I saw about 124 families in which the disease was suspected; investigated about 161 cases; recorded as poliomyelitis about 85 cases; rejected as not poliomyelitis 58 cases; and failed to make a satisfactory diagnosis in 18 cases. This elimination of nearly one-half of the suspected cases should not be considered as implying a general error of 50 per cent in the diagnosis of this disease; for a large number of rejections occurred in two or three places only, and it was probably true that I was asked to see doubtful, out of proportion to frank, cases, as a matter of diagnosis. Even so it is necessary to show the basis on which the diagnoses were made.

The minimum clinical standard adopted was the presence of paralysis—and that of a definite character, type, and development. Cases showing the systemic disturbances of poliomyelitis without paralysis or definite paresis were rejected. Undoubtedly a certain number of cases due really to the poliomyelitis poison, but failing to develop fully, exist; and undoubtedly these are

analogous to the abortive cases of scarlet fever, typhoid fever, diphtheria, etc., so often found in outbreaks of these diseases. Probably some of these cases were rejected on this standard. I am confident, however, that if this standard had not been adopted an enormous number of cases, not due to the poliomyelitis poison, but resembling clinically some of its effects, would have been admitted and would have resulted in inextricable confusion. The systemic disturbances preceding and accompanying the paralysis of poliomyelitis are far from peculiar to this disease, and in themselves, without the paralysis, do not often permit even a reasonable clinical guess. A laboratory test, such as diphtheria or typhoid fever presents, is not available. To assume that a case showing only the initial symptoms of scarlet fever is a case of scarlet fever if it is associated with a typical case, is justifiable; for it is known that typical scarlet fever is contagious, producing other typical cases, varying in severity, some being extremely mild. But to assume that a case showing only the initial symptoms of poliomyelitis is an abortive case of poliomyelitis, even if it be associated with frank poliomyelitis, is to assume that poliomyelitis is contagious—the very point at issue. If frank poliomyelitis cannot be shown to give rise to frank poliomyelitis it is idle to assert that frank poliomyelitis gives rise to "abortive" cases. Hence nothing is lost, in the early stages of the enquiry, by eliminating abortive poliomyelitis from consideration.

In approaching the study of the contagiousness of any disease, the collection of accurate facts first, and the statistical study of these,

*Presented at the quarterly meeting of the Minnesota State Board of Health, January 11, 1910, as a special report from the Epidemiologist of the Board.

should permit the solution of the problems, whether contagiousness exists at all, and if so, what the relative contagiousness is, i. e., as compared with other diseases. Granting the data correct, the analyses of the figures obtained should show whether or not the disease runs an epidemiological course resembling known contagious diseases.

My investigations, so far as they yielded data suitable for this work, showed 81 cases in 69 families. The first step in the analysis is the separation of the cases occurring singly in families from those occurring in groups of two or more. This gives 61 families with 1 case each, 8 families with 2 or more cases each; in detail, 4 families with 2 cases each, 4 families with 3 cases each. Next, the number of primary cases, i. e., first cases in a family, obviously 69, the remaining 12 being second or third cases per family. The next step in typhoid fever, diphtheria, or scarlet fever in which the incubation-period is known, would be to consider the cases in each family showing more than one case in detail as to the dates at which they developed, thus determining whether the second case occurred simultaneously with the first, the third with the second, etc., or whether they followed each other with intervals between them equal to or greater than the minimum-known incubation-period, thus permitting them to be placed as derivatives of the first case, rather than of the same source of infection that gave rise to the first case. In poliomyelitis this cannot be done, for the incubation-period, if any, has not been established conclusively, the Scandinavian figures of 3 to 7 days resting on evidence as yet inconclusive. Hence we are compelled to assume that, in all instances where two cases did not come down exactly together, the subsequent case, or cases, might have received their infection from the first. It is true that if this rule were followed in tabulating the Mankato typhoid outbreak the error in determining secondaries would have been very large. Of 309 families infected, yielding 405 cases, 245 showed only 1 case each, 64 showed 2 or more cases, or a total of 161 cases occurring in groups of 2 or more per family. There were therefore 161 less 64 or 97 apparent secondaries in these families. By investigation of the cases and examination of the dates of infection and incubation-periods, one-half (50) of the apparent secondaries were shown to be infected from the common original source, and hence were not infected from the previous case in the family. That a similar error may exist in assuming for poliomyelitis that every case other than the first in any family was derived from that first, is evident; but, not

knowing how to separate these two classes, we must be content to consider all but the first as infected from that first, noting only that the error, if any, will be on the side of showing contagiousness rather than the reverse.

Comparing the figures thus obtained with those already tabulated (Chapin, Providence Board of Health Report, 1908, pp. 69, 89) for scarlet fever and diphtheria the following table results:

TABLE NO. 1.

Disease	Total families	Total 1st cases	Total subsequent cases	Subsequent cases per 100 1st cases	True secondaries	
Diphtheria	.1502	1502	443	29%	? (tables do not distinguish)	
Scarlet						
Fever	.1763	1763	714	40%	?	"
Typhoid						
Fever	.309	309	96	31%	32**	10%
Within*					to	to
Mankato					47	16%
Outside*						
Mankato	62	62	17	27%	17	27%
Poliomyelitis	.. 69	69	12	17%	?	

These figures undoubtedly set the secondary cases too high for all the diseases, but, except in typhoid and as shown in the last two columns, the error is unknown. Again, as excellently indicated in the figures given for typhoid fever, first within and second outside of Mankato, the number of true secondaries is influenced by the sanitation exercised at the bedside. Hence the diphtheria and scarlet-fever figures are probably lower, on account of more or less isolation of the patient usually carried out in these diseases, than they would be if no isolation were attempted. (I am informed by men familiar with diphtheria before the days of isolation that it was the rule for every child in the house to contract the disease, and it is not uncommon to see such conditions occasionally in ignorant or stupid families now.) But the poliomyelitis figure is probably at its maximum for this type and strain of the disease, as it occurred here this year, for isolation of the patient from other members of the family was not carried out at all, or even attempted in the vast majority of the cases here tabulated. We do not know that such precau-

*This distinction is made because the cases within Mankato were, in the great majority of families, scrupulously cared for, to prevent contact cases. Outside of Mankato only the average care (or neglect) of these precautions obtained.

**Thirty-two cases were known secondaries; 15 more may have been secondaries; hence both figures are given.

tions, if carried out, would have affected these figures for poliomyelitis, but we do know that it is possible by such precautions to restrict typhoid to one case in a family, and even diphtheria and scarlet fever, if diagnosed early. Hence if poliomyelitis is contagious, absence of such precautions would give it every opportunity to assert its full powers of contagious spread. In typhoid, at least, it is fair to assume that true secondaries show careless sanitary nursing, 17 such families giving rise to 32-47 true secondaries. Since almost all the poliomyelitis cases were nursed without regard to restricting infection, the comparative figures for poliomyelitis would be 69 families, giving 12 assumed secondaries. On this ground the likelihood of spread of the two diseases within the family from the absence of sanitary precautions may be set down as roughly 10 or 15 to 1 for typhoid fever as against poliomyelitis. The figures for scarlet fever and diphtheria are not available, but they would doubtless run even higher, relatively, than for typhoid. Should we make the absolutely unwarranted assumption, denied by every known observation in this outbreak, that poliomyelitis spreads only in careless families, the following comparison stands:

Typhoid in Mankato	No. of careless families	Secondaries in these	Per family
Within			
Mankato ..	17	32	= nearly 2 cases
Outside			
Mankato ..	6	17	= nearly 3 cases
Poliomyelitis ...	8	12	= 1½ cases

Another method of comparing the infectiveness of different diseases is that suggested by Chapin (*ibid*). He ascertains the total number of members of the infected families, subtracts 1 member from each family to represent the first case in each, and considers all the remaining members, unless away from home or very promptly separated from the sick member, as exposed. The proportion of these exposed members who succumb gives a very fair index of the relative contagiousness of the diseases. (In considering scarlet fever he further subtracts from the total nominally exposed those insusceptible on account of previous attack.) He has arranged these figures for age and sex, and so is able to show the likelihood of any exposed child taking the disease. Parallel figures for poliomyelitis have been prepared for this report. Those for age and sex follow at the end of this report, but they are obviously based on too scant a number to be conclusive. However, a comparison of the gross totals is interesting.

Disease	Total (including adults) exposed to 1st cases	Total of these (including adults) succumbing	%	Corrected for true secondary
Diphtheria	5564	443	8%	?
Scarlet				
Fever	7143	714	10%	?
Typhoid in Mankato (Approx.)	1200	96	8%	2¼%
Poliomyelitis	300	12	4%	?

(This table is based on the assumption that all except the first cases are true secondaries. The last column gives the correction.)

In scarlet fever, diphtheria, and poliomyelitis these figures are affected by the inclusion in them of adults, who are relatively insusceptible to all three diseases. I have re-arranged them omitting adults in all cases.

Disease	Total persons 21 or under exposed to 1st cases	Total of these succumbing	%
Diphtheria	2135	366	17
Scarlet Fever...	3443	761	22
Poliomyelitis ...	172	10	6

It will be seen that on all these counts poliomyelitis appears much less contagious within the family than does scarlet fever, diphtheria, or typhoid fever. But, however willing we may be to account for the secondary cases as due to contagion, the primary cases are yet to be accounted for. Here calculations will not aid. Only minute detailed investigation of the epidemiological history of each case will supply information of value.

Of the 69 families tabulated in this investigation the vast majority showed no history of contact with frank poliomyelitis, however remote. A very few gave histories remotely connecting them, through momentary contact or through third persons, with frank poliomyelitis. A very few gave indefinite histories of remote contact with elusive "abortive" cases. The families were usually excited to an unusual pitch of surmise and enquiry regarding such contact, and the previous histories of the patients were ransacked with the greatest care by the people themselves, as a rule. With all this, hardly a case was satisfactorily accounted for as one of even possible contagion, unless it is to be admitted that evidence far less than would be required to account for the source of infection in smallpox, scarlet fever, diphtheria, or typhoid, be admitted in the case of poliomyelitis. Yet the former are notoriously contagious, and the latter is on trial. The assumption that human "carriers" play a large part in the spread of the disease seems weak,

for it is difficult to concede greater infectiveness to a carrier than can be admitted for a frank case, while in most of the above instances the hypothetical carriers responsible could not have been infected from frank cases, but must have received their infection from still other carriers. This is admissible in diphtheria, for there the frank case is known to be contagious, and the actual transfer of the bacteria from throat to throat can be traced culturally. It is inadmissible as a deduction in poliomyelitis, for both of these methods of proof are lacking.

Finally, it must be said that the contagiousness here eliminated is that which I have elsewhere defined (*American Journal of Public Hygiene*, November, 1907) as actual contagiousness. Potential contagiousness,—the harboring and throwing out of infectious material,—is not denied; but it is denied that such infectious material thrown out often reaches suitable soil for its propagation. To illustrate: A case of smallpox or a case of typhoid fever is potentially contagious, i. e., both are constantly discharging great quantities of their respective infective agents. Both may be actually highly contagious also, provided the infection reaches suitable soil. In smallpox the contagion doubtless constantly reaches the soil, i. e., the bodies of attendant physicians, nurses, etc., but that soil is unsuitable because of vaccination. In typhoid, on the other hand, the soil is usually suitable, for immunity to typhoid is not frequent or great, but careful nursing will prevent the infection reaching it.

We may therefore assume that poliomyelitis cases throw off the infective agent in great quantities, and yet we must admit that, if so, those associated with a case rarely receive the infection, or, being infected, rarely prove susceptible—we do not know which.

For the present, the most plausible explanation of the spread of the disease yet offered seems to be that but a few of the human family are susceptible, and that these few receive their infection sometimes perhaps from other humans, but in the vast majority of cases from some source as yet unknown. As pointed out in a previous communication, it seems not unlikely that the infective agent may be carried by dust, and that the most fertile source of bacterial life in such dust as was available to the cases investigated was horse-manure. The finding of even a few cases of apparent clinical poliomyelitis in horses lends color to this assumption.

A few miscellaneous data as to age-incidence, etc., are appended.

Omitting the St. Paul and Minneapolis cases and all in which the data for any reason were

incomplete, I have tabulated 81 cases, occurring in 69 families. These figures are too small to be conclusive, but so far as they go they have been worked out to show—

1. The highest number of cases at any one age is 19 at 2 years old (from 1½ to 2½ years); i. e., about 23 per cent of all cases were at or about two years old. Seventy-three per cent of all the children of this age in the affected families were attacked.

2. The group age-incidence is most marked at 1 to 3 years (1 and over to 3½ years). About 53 per cent occurred in this group; 66 per cent of all the children of this age group in the affected families were attacked.

3. The sex-incidence is 46 males and 45 females (certain cases available for this calculation, in addition to those suitable for other calculations, being added in). Whether or not the sex-incidence at different ages is different could hardly be determined from these scanty figures.

4. There seemed to be no relation to nationality. The nationalities predominating in each community, judging from the general information obtainable, naturally suffered most. Exact figures showing the nationality distribution of the different communities were not available.

5. Eight of the 69 families showed secondary cases; 4 of these families showed 1 secondary case each, and 4 showed 2 secondary cases each.

Table showing proportion of persons exposed to primary cases in families which were attacked.

Distribution of secondaries by age and sex.

Ages		Total Sick	Secondary	Primary	Total exposed to primary	Total sick from this exposure	Attack rate Polio.	Attack rate Diph.	Attack rate Scar. Fev.
Under	1 yr.	4	1	3	11	1	9	3	5
	1 "	11	1	10	8	1	12	17	19
	2 yrs.	19	2	17	9	2	22	42	24
	3 "	13	2	11	10	2	20	32	30
	4 "	7	1	6	11	1	9	26	35
	5 "	3	0	3	9	0	0	28	32
	6 "	3	0	3	18	0	0	41	30
	7 "	1	0	1	10	0	0	21	27
	8 "	3	1	2	7	1	14	25	31
	9 "	1	0	1	8	0	0	16	20
	10 "	3	0	3	9	0	0	11	19
	11 "	0	0	0	4	0	0	21	14
	12 "	3	0	3	5	0	0	15	18
Adults	13 "	0	0	0	6	0	0	11	8
	14 "	1	1	0	4	1	25	10	9
	15 "	0	0	0	4	0	0	9	10
	16 "	0	0	0	5	0	0	10	6
	17 "	0	0	0	2	0	0	2	6
	18 "	2	1	1	7	1	14	3	4
	19 "	0	0	0	1	0	0	5	4
	20 "	1	0	1	1	0	0	2	2
	Parents	6	2	4	23	2	1	2	1
					130				
		81	12	69	392	12	4%	8%	10%

SPINAL ANESTHESIA*

By FRANKLIN R. WRIGHT, M. D.

Professor Genito-Urinary Diseases, University of Minnesota

MINNEAPOLIS

During the last few months the papers have been filled with detailed accounts of clinics which were being held in various parts of the country, by a celebrated Roumanian surgeon, for the purpose of introducing to American surgeons a new anesthetic, stovaine, which was used by a so-called new method, spinal anesthesia.

The method used by the newspapers to obtain, in advance, the dates on which these clinics were to be held, and, later, to obtain a detailed account of everything that took place in the operating rooms, is unknown to me. Likewise is unknown to me the method which this celebrated surgeon used to induce some of the foremost American surgeons to arrange these clinics and to stand sponsor for him while he introduced to them and the American public, as something new, a drug ten years old used by a method over twenty-five years old.

Between the year 1860 and 1870 surgeons became interested in local anesthetics, using principally morphine or atropine hypodermically. As early as 1879 Bier and Seldowitsch of Kiel, Germany, suggested that the injection be made into the subarachnoid space. Later, they used cocaine in eight cases, but the results were not satisfactory. In 1885 Corning of Chicago injected eucaine into the subarachnoid space.

Tuffier of Paris was probably the first one to use spinal anesthesia on a large scale. He used cocaine in his early work, but in 1899 he began the use of stovaine, this drug being less poisonous than cocaine.

The principal drugs that have been used in spinal anesthesia are cocaine, eucaine, stovaine, and tropococaine. Two of these, eucaine and stovaine, are synthetical products. Cocaine is an alkaloid from the erythoxylon coca, while tropococaine is obtained as an alkaloid from the erythoxylon coca, and it is also produced synthetically.

Cocaine and eucaine have been used since early in 1880; stovaine, since 1899; tropococaine, since 1902. Cocaine and eucaine are not used as much as formerly, as they are both cardiac depressants, and unfavorable symptoms frequently follow their use. Stovaine was quite popular when first introduced, ten years ago, but of late it has been losing favor because of its unpleasant effect on the respiratory centers. At present, tropo-

cocaine is the agent most frequently used. It is equally effective, and reports seem to show that toxic symptoms do not occur as frequently as when one of the other anesthetics is used.

Spinal puncture must be considered as a major surgical operation. Where the spinal puncture is to be made, the back, from the fifth or sixth dorsal vertebra to the lower part of the sacral region and well around to the sides, should be cleaned with the same care and method which should be used in preparing the abdomen for laparotomy. The cleansing of this large field is made necessary by the handling, which cannot be avoided in identifying the different lumbar vertebrae and locating the point where the puncture is to be made.

The needle, which should be three inches long, may be inserted between the first and second, the second and third, or the third and fourth lumbar vertebrae. It should puncture the skin three-fourths of an inch from the middle line and, being guided upward and inward, pass between the laminae of the vertebrae as far as the subarachnoid space, and no farther. The larger portion of the spinal fluid is contained in this space, i. e., between the arachnoid membrane and the pia mater, and only a small portion is found between the pia mater and the cord. If the needle is passed through the pia mater, only a few drops of spinal fluid can be drawn, and when the anesthetic is introduced it remains confined over a small portion of the cord, and a very limited area of anesthesia is produced.

Through the needle thus introduced, four to six c.c. of spinal fluid are withdrawn. The anesthetic chosen is dissolved in this fluid, and it is immediately returned to the spinal canal. This method of dissolving the anesthetic in the spinal fluid was suggested by Dr. A. W. Morton, of San Francisco. It has the advantage of limiting to the least possible amount the quantity of foreign material injected, and it avoids any danger that might arise from an increased intradural pressure.

The extent of the body that will be anesthetized by a given injection, depends, first, on the amount of anesthetic introduced; secondly, on the position of the patient when the injection is made. For example, if one grain, the usual dose of tropococaine, is injected between the third and fourth lumbar vertebrae of the patient in a recumbent position, the area anesthetized is limited

*Read before the Hennepin County Medical Society, February 7, 1910.

to the perineal and anal regions and to the inner side of the thigh. If the spinal fluid is drawn and the injection is made with the patient in a sitting position, and immediately after the injection the patient assumes a horizontal position, the anesthetized area will include the legs and come somewhat above the pubes and Poupart's ligament. If instead of assuming a horizontal position the patient is placed in a high Trendelenberg position the anesthesia will ascend as high as the umbilicus, or even higher.

The effectiveness of spinal anesthesia by ether is shown by the following case: Mr. P., aged 27, had complained for a year of frequent urination. Having made a diagnosis of tuberculosis of the bladder, I wished to determine whether or not his kidneys were also affected. To determine this it was necessary to catheterize his ureters. I used a Nitze cystoscope, the use of which requires the presence of at least two and one-half ounces of water in the bladder. The capacity of this young man's bladder was only one ounce. He was etherized, but when deeply anesthetized his bladder was so sensitive that it would not retain over one and one-half ounces of water, an amount too small to permit one to work. Three days later, using spinal anesthesia, four ounces of water were injected into his bladder, and his ureters catheterized without causing the slightest pain.

Experience has shown that patients of advanced years are better subjects for spinal anesthesia than young ones, i. e., the anesthesia lasts longer, and unfavorable symptoms do not occur so frequently. This is in marked contrast to the effect of general anesthetics in common use.

I wish to give you a brief report of three cases, with an average age of 79 years, in which I used spinal anesthesia last summer, and to show you a photograph of these three old men, taken the day they left the hospital. Two of these men, cases 1 and 3, were in such bad physical condition that they were brought to the hospital on stretchers. Prostatectomy was performed on June 11, 1909, under spinal anesthesia, one grain tropococaine



being used. The operation was painless, and there were no unfavorable symptoms from anesthetic. The pulse before operation was 72; at the end of the operation, 76; at 7 P. M., nine hours after operation, 100; at 8 A. M., June 12th, 92 per minute.

CASE 1.—Mr. K., aged 76 years. Suprapubic prostatectomy was performed on June 24, 1909, under spinal anesthesia, one grain tropococaine being used. The operation was painless, and there were no unfavorable symptoms from anesthetic. The pulse at 7 A. M., 64 per minute; operation at 9 A. M., pulse at four P. M., 90 per minute.

CASE 3.—Mr. M., aged 81 years. Perineal prostatectomy was performed on June 11, 1909, under spinal anesthesia, one and one-half grains tropococaine being given. The operation was painless, but the patient became nauseated on the table, probably due to the large dose of tropococaine. The pulse at 7 A. M. was 60 per minute; operation at 10 A. M.; pulse at 12 M. 100; good strength; pulse, June 12th, at 7 A. M., 60 per minute, the same as before the operation.

In conclusion, I wish to say that, in my opinion, spinal anesthesia offers an effective and agreeable substitute for general anesthesia in cases where the field of operation lies below the umbilicus; that it finds its application in, and can be safely given, to patients of advanced age, and to younger patients when, for any reason, general anesthesia is contra-indicated.

DISEASES OF THE STOMACH AND THEIR TREATMENT*

By H. L. KNIGHT, M. D.

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MINNEAPOLIS

Every time that I have read the subject assigned to me on this program, I have been more

and more appalled at its wide-reaching significance and more and more conscious of the limited ability that I can bring to its elucidation.

"Diseases of the stomach from deformity, in-

*Read before the Study Club of the Hennepin County Medical Society, December 1, 1909.

inflammation and ptosis. Treatment by diet and dietetic measures, by physical methods, hydrotherapy, acids, alkalis, stomachics, by artificial ferments, as pepsin, diastase, papoid, etc."

When one considers this topic, or rather these topics, he is reminded of the story of the celebrated Dr. Johnson. One day, when dining with a lady, there was a little delay after the soup was served. "My dear Doctor," said his hostess, "it will be five minutes before the fish will be ready. Will you have the kindness during that interval, to relate to me the history of the world?"

As to acute gastritis: The whole treatment is practically summed up in one word, "rest." The stomach should be emptied by the use of lavage or emetics of any irritating food remnants which it may contain. The patient should be put to bed, and if pain or restlessness is troublesome the hypodermic use of small quantities of morphine or codeine, or a suppository containing an opiate combined with belladonna, is indicated. Light hot applications may be tried, or cold ones, if they give more relief. Of course, it need not be said that if the cause of the malady be a chemical poison, the proper antidote must be administered at the earliest opportunity. If the stomach is not too irritable, bacterial invasion is to be combated with suitable bactericides; and in diphtheritic gastritis, the administration of antitoxin should not be delayed.

Further, in phlegmonous and toxic cases, remember the possibility of subsequent perforation or peritonitis or infective metastasis to distant localities, and have your surgical friend within call. Look to the condition of the kidneys and see how they are standing the increased burden thrown upon them by the necessity of eliminating the chemical or bacterial poisons which the local process has cast upon them. If prostration threatens, support the general strength by appropriate measures, preferably enemata and the hypodermic use of stimulants, especially during the very acute stage. The use of normal saline solution to which some soluble, predigested food may be added, per rectum, should by no means be overlooked, as they supply the body, especially the kidneys, with fluid to carry on its functions and allay thirst, and they have some food value. If the rectum is intolerant, hypodermoclysis must be considered. Try to keep the stomach empty during the early period of the disease, at least, unless vomiting or retching should demand lavage or local sedatives, or great general prostration should make it seem advisable to make a

cautious, tentative attempt to see what the diseased organ can do in behalf of the general welfare.

If it seems desirable to move the bowels, use enemata or suppositories; if these fail, one writer says, try castor oil or calomel and soda. Never use the drastic purgatives. When convalescence sets in, be slow in putting increased burdens upon the inflamed stomach, remembering that an important remedy, especially at this juncture, is what the French call tincture of time.

Diarrhea when present may generally be ignored, as it tends to recovery as the other phenomena of the disease subside.

Chronic gastritis seems to be, *sui generis*, a comparatively rare malady. A very large majority of these cases are secondary to, or associated with, diseases of other organs, or to depraved blood conditions, infectious or metabolic, or to ingestion of irritants, especially alcoholic. Some follow other diseases of the stomach itself.

It may be caused by improper or badly masticated food; and in this connection bad teeth, hasty eating, or overeating, the taking of food at improper times, or the use of hot or ice-cold drinks or foods are to be considered in outlining a therapy.

The basis for dietetic treatment must depend largely upon the results of the investigation of the secretions. That a hyperacid case needs different management from a hypo-acid one need not be enlarged upon.

A precaution that applies to all cases is that irritants, such as alcohol, coffee, mustard, horseradish, etc., should be avoided. The diet should be mixed, consisting of soft, easily digested food.

Meat should consist principally of the lighter kinds, as veal or chicken, and, in case of bad teeth or hyperacidity, should be finely cut up. The latter may also be said of all foods that are difficult of mastication. Bread in the form of toast and zwieback is allowable. Those articles containing large quantities of cellulose should be abstained from. The use of a sieve to sift out this substance is an important adjunct to treatment.

Lavage, preferably at bedtime, in order that the stomach may get a good night's rest, is to be recommended. Some authors, however, prefer that it should be done in the morning, before breakfast. When this is not practicable, the use of Carlsbad or Vichy in hyperacid cases or a chloride of sodium water in those accompanied by a low HCl index affords a substitute of some value. If diarrhea is present, the Carlsbad may

be taken hot. Vichy and milk or milk and lime-water sometimes do good service.

Nitrate of silver solution given before meals or with the stomach-tube as lavage will tend to diminish hyperacidity or hyperesthesia and oxygen before meals or alkalis after meals may be tried in the former. A good formula is that of Gompertz: sodium bicarbonate, calcium carbonate, magnesia pond aa. 15.0 M. S., one-half to one teaspoonful when discomfort begins after meals. If achylin is present, as little fluid should be taken with meals as possible; if atony, several small meals per day are better than three large ones. Deficiency in hydrochloric acid may be remedied, at least in part, by its administration in divided doses after meals with a bitter tonic, such as cundurango, before meals. Pepsin may do good also.

As to hydrotherapy, it is probable that a Priesnitz bandage, properly applied and worn during the night, is the most generally serviceable. An extra flannel or woolen protection during the daytime is sometimes very acceptable to an abdomen sensitive to changes of temperature. Massage, in properly selected cases, should not be overlooked.

Constipation, when present, is probably both symptomatic and causative, constituting a vicious

circle that acts and re-acts. It is especially liable to be associated with those cases complicated with atony or neurasthenia or both and demands treatment according to its type. If atonic, one of the agar preparations may be given, which acts by becoming pulpified by the absorption of fluid from the food and retaining it throughout the intestinal tract. This mechanically softens the stools and promotes their easy evacuation. The agar may be used plain or in the form of regulin. The spastic form of constipation is apt to be a part of the symptom-complex of neurasthenia and demands soothing, relaxing measures, non-irritating diet, olive oil in hyperacidity, belladonna, rest, or perhaps a rest-cure. The rectum, if diseased, should be examined and treated.

It is unnecessary to add, of course, that all extraneous causative or complicating factors should be attended to as far as possible. Incompetent hearts or kidneys should be looked after, pathological blood conditions improved, improper environment and habits corrected and mental hygiene instituted.

As to ptosis, try the rest-cure for the thin ones. If the abdomen can be filled with adipose tissue, it will serve as a supporting cushion for the sagging organs. For the fat ones, treat symptomatically. If that fails, perhaps the surgeons can do something.

DIVERTICULA OF THE SIGMOID: REPORT OF A CASE*

BY A. W. ABBOTT, M. D.

MINNEAPOLIS

The following is a history of a case of acquired diverticula of the sigmoid. It is of especial interest as having a bearing upon the causation of this condition.

Mrs. N., aged 53; married; secundipara; no miscarriages. Menses at 13 and still regular, duration five to six days, and amount above normal and increasing, and no pain. Both labors instrumental. Lacerations were repaired twenty-one years ago and six months afterward the coccyx was removed. Operated upon for piles sixteen years ago. Bowels always regular, but marked exhaustion after taking a cathartic, so that she was obliged to take her bed for a day afterwards. She had never noticed the passage of fecal stones. Appetite was normal. No symptoms from kidney or bladder. The last fifteen or twenty years has complained of sacral pain,

which extended downward along the sciatic nerve and into the groin. This has increased within the past two weeks. She has had some mucous discharge from the rectum with occasional specks of blood in the stool.

Upon examination of the pelvis a mass about the size of a large hen's egg can be made out in Douglas' cul-de-sac. This gives the impression of being intestine, but with small, stony, hard masses, which project toward the vagina just behind the cervix. This mass was distinctly but not acutely tender.

Upon examination by proctoscope the mucosa of the bowel about eight inches above the anus, presented a velvety appearance with masses of mucus. The uterus was fixed by adhesions. There was some thickening of the tubes. The uterus contained a few small fibroids, but from their position and size they could not have made any unusual pressure upon the bowel. After

*Presented before the Minnesota Academy of Medicine, February 2, 1910.

separating the adhesions and removing the uterus and adnexæ the mass in Douglas' cul-de-sac was easily reached and explored. It proved to be a portion of the sigmoid about three inches long and adherent to the rectum at the bottom of Douglas' cul-de-sac. On separating this adhesion the mass could be brought up entirely outside of the abdomen, as the mesosigmoid was usually long. A mass upon the convex side, about two centimeters in diameter, was distinctly hard, evidently a thickened portion of the bowel-wall. To the right and left of this hardened portion were diverticula containing fecal stones. The one upon the right was much larger than the left. As there was an evident stricture at the point of hardening of the bowel-wall the mass was removed entire, and an end-to-end anastomosis made. Upon examining the specimen there was a stricture at the distal end, which would hardly admit the tip of the little finger. In the lumen of the gut were several free fecal stones. At one point a stone is partially buried; at another point another stone is almost entirely buried; while at a third point is a well-developed diverticulum with a small neck and containing two or three stones. There is no evidence of inflammation or ulceration about the mucosa, nor could any pus be expelled from the narrow opening which connected the mucosa with the fully formed diverticulum. Observe that there are several stones lying free upon the mucosa.

In this case the following seems to have been the sequence of events: first, a long mesosigmoid; second, a dropping of this part of the gut into Douglas' sac with a partial twist; adhesion of the twisted portion to the rectum; a thickening of the gut at this point forming a stricture; the formation of fecal stones proximal to the stricture; the gradual burrowing of some of the stones into the mucosa, forming diverticula, one of which is complete.

The accepted facts in regard to acquired diverticula of the bowel are, that they are almost entirely confined to adults; that the common lo-

cation is close to the mesentery attachment, although often found on the free surface; that they are more common about the sigmoid than elsewhere in the bowel; that all of the coats are usually involved, although much thinned and flattened, and, as in this case, constipation is not usually present; that the diverticula as a rule when completely formed are bottle- or flask-shaped with a small opening towards the intestine; that ulceration may, but does not necessarily, take place in the diverticula.

Various theories have been given as to the cause of acquired diverticula: a congenital weakness at the site of blood-vessels entering the bowel; partial rupture of the intestinal wall; a previous ulceration at the point; congenital weakness of the muscular layer; a congenital absence of muscular fibres; and in a few cases traction by adhesions and neoplasm have been undoubted causes. Nootnagel says: "As diverticula are relatively frequent in the colon, and as normally small diverticula are found between the tenia of this part of the bowel, the theory has been advanced that these diverticula were due to the action of accumulated fecal matter in the small protrusions between the tenia."

In this case the diverticula are not very close to the mesentery. There are apparently no other weak spots in the bowel. There are no evidences of ulceration. There was no constipation, yet stones were lying free in the gut, which had evidently been formed a long time before.

We may conclude, therefore, that in this case the causation was a stricture. The formation of fecal stones proximal to that stricture, by which the ordinary fecal contents had passed naturally and for a long time, and that the stones had simply buried themselves in the wall of the gut. That the stones were formed before the diverticula is rendered almost certain from the fact that there are still several lying free in the lumen of the gut, of the same size and hardness as those in the diverticula.

PREVENTION OF APPENDICITIS*

By A. KUHLMANN, M. D.

MELROSE, MINN.

In the advancement of medical science of late years, the profession has taken for its watchword, "An ounce of prevention is worth a pound of cure."

The bacteriologists have enabled us to see the cause of many of the infectious diseases, and in

that way they have furnished us a weapon to fight them through preventive measures.

We have come to the conclusion that, in order to eradicate a disease, we must look for the cause. This applies not only to the infectious diseases, but to all, and particularly to appendi-

citis, on which I venture to make a few suggestions from my observations.

It must be appealing to an observing, sound-thinking student of medicine and such questions as the following must arise in our minds: Why are so many people afflicted with appendicitis? Why is it that people are more afflicted with this disease in one country or community than in another? "Why is it," as I heard a prominent surgeon say in a clinic, "he never heard of a negro having appendicitis." Does the increase of cases mean a faulty diagnosis or an overanxiety to operate for financial reasons? Shall we be satisfied that because the surgeon can take out the appendix, he has conquered the disease? No. We must find the cause, and in that way only can we check the disease before any harm is done.

It seems to me a reasonable fact that appendicitis in the majority of the cases is brought on by stagnation of undigested food and material in the cecum, and that, in turn, an improper functioning of digestion and an error of diet follow.

If we study the anatomical position of the cecum and the appendix we readily see that the cecum furnishes a favorable place for lodgment. This is true not only of food, but also of germs. In typhoid do we not find the hotbed of the disease in the cecum? In dysentery do we not find the greatest inflammation in the cecum and appendix?

From the physiologists we have learned that food should be digested when entering the ileo-

cecal valve, as the colon largely furnishes the function for absorption of chyle.

We have to suffer for nature's abuse and, in general, in this country we eat too much concentrated, too much undigestible, too much ill-prepared food, and not enough cellulose (bulk), and in too great a hurry. That people in other countries and in some communities have not so much intestinal trouble is due to their simple meals and better prepared food.

Another point that impresses every foreigner coming to this country, is the hurry in eating, and the lack of proper recreation and proper exercise. How should appendicitis and our multitudinous gastro-intestinal troubles be prevented? By education and thorough instruction of our medical students in dietetics; by educating the public, who are only glad to get relieved from the prevailing appendicophobia, that the secret of health is largely due to proper diet, proper recreation, fresh air, and proper exercise; and by educating our daughters to be able to prepare a good healthy meal. They ought to know the injurious effects of ice-cream, strawberries, raspberries, etc. They ought to be instructed in the art of cooking and impressed with the fact that it is more essential to health, happiness, and comfort in this life to be able to prepare a hygienic meal than to know verses of Shakespeare by heart.

If I am asked by my patients how to prevent appendicitis I tell them to take simple meals with sufficient bulk to avoid constipation, masticate their food, and take proper recreation and exercise.

AN INTERNATIONAL COMMISSION ON THE CONTROL OF TUBERCULOSIS OF DOMESTIC ANIMALS

By M. H. REYNOLDS, Secretary, M. D.

Professor of Veterinary Medicine, University of Minnesota, and Secretary of the International Commission on the Control of Tuberculosis of Domestic Animals

ST. PAUL

The American Veterinary Medical Association has recognized for some time that the question of tuberculosis control-work among domestic animals was a big and very difficult problem of universal interest and fundamental importance, and one that must be met sooner or later.

This Association clearly recognized that certain great interests are concerned in any dealing with this problem. Fundamentally, these are, first, general society, interested in this question as a public health measure; second, the live-

stock producer, especially interested in the financial questions of profit and loss as the producer of animal foods for human beings; and, third, the packer, as the manufacturer of these animal foods; and, fourth, the veterinary profession, involved as sanitarians and practitioners intimately related, on one hand, to the producer and, on the other hand, to the consumer

With these considerations in view the American Veterinary Medical Association made provision at its last session for the creation of an International Tuberculosis Commission which

should fittingly represent all these great interests. The essential duty of this Commission is to study thoroughly and report upon the general problems of control-work, rather than upon technical research problems.

The following gentlemen were selected to represent the United States on this Commission: Hon. W. D. Hoard, of Wisconsin, a practical dairyman, breeder, farmer, and editor of *Hoard's Dairyman*; Dr. John R. Mohler, chief of the Pathological Division of the Federal Bureau of Animal Industry; Dr. V. A. Moore, professor of pathology and dean of the veterinary college at Cornell University, New York; Dr. M. P. Ravenel, professor of bacteriology, University of Wisconsin, and member of the Wisconsin State Live Stock Sanitary Board; Dr. M. H. Reynolds, professor of veterinary medicine, University of Minnesota, member and organizer of the Minnesota State Live Stock Sanitary Board; and Dr. E. C. Schroeder, superintendent of the Federal Bureau of Animal Industry Experiment Station.

The members selected to represent the Dominion of Canada were, Hon. W. C. Edwards, Ottawa, one of Canada's most famous breeders of shorthorns; Mr. J. W. Flavelle, of Toronto, a prominent Canadian packer; Dr. C. A. Hodgetts, Chief Health Officer for the Province of Ontario; Dr. J. G. Rutherford, Veterinary Director-General and Live Stock Commissioner, Ottawa; and Dr. F. Torrance, Winnipeg, professor of veterinary medicine, University of Manitoba, and a prominent Canadian veterinarian.

So far as the writer knows, credit for the original suggestion and for pushing the movement along until it finally resulted in the creation of this Commission, belongs especially to Dr. Rutherford of Canada.

The first session of this Commission was held recently at Buffalo, New York. Dr. J. G. Rutherford was elected chairman, and Dr. M. H. Reynolds, secretary, of the Commission.

It was soon recognized that this was necessarily a preliminary meeting and should be devoted to a discussion of organization, and plans for work with the members getting acquainted with each other and with each other's views.

It was soon agreed that the Commission could not wisely at this stage adopt specific resolutions or recommend specific methods; but a number of general propositions were taken up for consideration and on some of these the Commission reached unanimous understanding.

1. That general compulsory tuberculin test and slaughter is impractical and should be dropped from further consideration.

2. That voluntary testing for owners as a general state policy should be retained, provided it be recognized for what it really is; i. e., a very efficient means of public education and as serving somewhat to keep further spread of tuberculosis among domestic animals in check.

3. It was unanimously agreed, recognizing fully its limitations, that we can and should accept the tuberculin test under certain conditions as a basis of suitable control-legislation.

The general problem before the Commission, i. e., control-work, was divided into four sections and assigned to sub-committees as follows:

Education and Legislation:

Dr. Reynolds (Chairman).

Governor Hoard.

Dr. Rutherford.

Dissemination:

Dr. Moore (Chairman).

Dr. Schroeder.

Dr. Ravenel.

Location of Tuberculosis:

Dr. Mohler (Chairman).

Mr. Flavelle.

Dr. Hodgetts.

Disposition of Tubercular Animals:

Senator Edwards (Chairman).

Dr. Mohler.

Dr. Torrance.

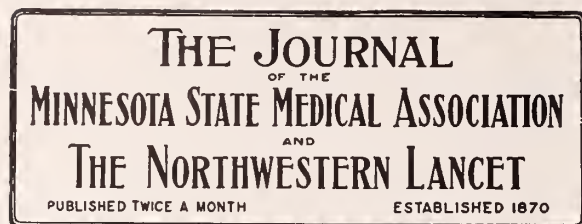
One of the serious difficulties in our problem was recognized as the indifference of purchasers of valuable breeding stock who want certain blood-lines and are willing to take the tuberculosis in order to get the breeding.

It was recognized that marked change in public sentiment in most states and provinces must be secured and that this can be expected only as a process of slow development.

In this informal discussion the Commission found and recognized the importance of certain doors admitting the sanitarian to the tubercular herd; i. e., (1) by way of the killing-floor and local stock-yards to the farm; (2) through clinical cases recognized in practice, inspection, or otherwise; (3) tuberculin testing for interstate and export traffic.

Two important general sources of dissemination (not individual infection) were recognized: first, the traffic in tuberculous cattle, especially in pure bred stock; and, second, unpasteurized creamery skimmed milk.

In view of these various considerations it was also agreed that the Commission needs the assistance of two more members, one of whom should directly represent American packers, and the other should represent American state health officers.



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MARCH 15, 1910

THE 1910 ROSTER AND MEDICAL DEFENSE

The Secretary of the State Association is now engaged in the difficult task of *completing* the Roster for the current year, that it may be published in April. We emphasize the word *completing*, for the Roster cannot be said to be finished when the names of a large number of our leading men are not upon it at its publication, but are certain to be sent to the Secretary a few days later, as, unfortunately, occurs every year. Why should this be true year after year, especially in the case of men who take a prominent part in all medical matters in the state?

It is also to be remembered that the medical defense measure of the Association becomes operative on April 1st in the case of members whose dues are paid at that time; in other words, the insurance premium of every member is due April 1st, and there will be no insurance until the premium (a part of each member's annual dues) is paid.

Do not neglect this important matter another day.

RETARDED CHILDREN

The second Minnesota Psychological Conference will be held in the Physics' building of the State University on Friday, April 1st. A symposium on retardation among school-children will be presented by Dr. A. C. Rogers, Superintendent of the School for Feeble-minded at Fari-bault; F. E. Lurton, superintendent of schools, Anoka; Dr. H. H. Woodrow, who is conducting clinics at the university; Dr. E. A. Meyerding, medical inspector in the St. Paul schools; and Judge John Day Smith, of the Hennepin district bench, judge of the Juvenile Court.

It is probable that some good will come from this meeting provided that it is properly reported.

It is with deep regret that THE JOURNAL-LANCET learns that two or three members of the Minneapolis Board of Education are out of the city on vacations. If they were here or if the remaining members of the Board would attend these meetings, it is possible that the children of the Minneapolis public schools might be inspected for things other than pediculi and squint!

It is time for the general public to learn what retardation among children really means, and to hear the subject discussed by medical men and psychologists would speedily create a demand for more general inspection and better training for retarded pupils.

It is strange that Minneapolis is so slow to carry out inspection in the public schools when it is done with thoroughness and care in other cities. Indifference and ignorance on the part of the School Board and their employees is the only excuse, however much they may talk of lack of money and jealousy on the part of the medical profession.

The delay of years in the inspection problem is a blot that cannot be erased without greater expense on the part of the city authorities.

Medical inspection might be inaugurated at the State University and conducted by a force from the medical department. An example of this kind might be a stimulus and tend to a revival of interest in the work.

The State Board of Health may be able to suggest the necessity of such work to the Regents of the University.

It would be rather interesting to see how many University students (and professors) would be found with the stigmata of retardation. At all events a plan originated at the University and carried out by specially qualified medical men among 4,000 students would demonstrate

the necessity of such work among younger pupils.

HAY-FEVER AND ASTHMA

Dr. Woods Hutchinson writes a very clean-cut and sensible article on "Asthma and Hay-fever, the Foes of a Man's Own Household," in an old number of the Saturday Evening Post.

He says: "Some men are born asthmatic; some achieve asthma; some have it thrust upon them! The patient makes the disease, an external match fires the mine; to remove the external cause is not enough, you must remodel the victim if you can! Asthma is not a disease, but a state of the body. The fact has certain redeeming features. If you were born asthmatic you stand a good chance of dying asthmatic, but you are pretty safe to live fifty or seventy-five years in between. You may sneeze your very soul out, and gasp until you think every breath will be your last; but it will very, very seldom kill you, though there may be times when you wish it would."

The writer goes on to explain and explode many of the time-worn theories of these disorders and offers much comfort to the sufferer by promising him a longer life, a probability of overcoming his troubles, and further tells the victim that he need not expect to acquire tuberculosis any more readily than the average person.

In either disorder, asthma or hay-fever, it is necessary to relieve the sufferer from all irritating points, the internal mine of irritability, the nervous system; an external spark of odor, dust, or fog, and between the two the irritable spot in nose, throat, stomach, or lung, on which the spark must fall to reach the powder.

Most of the afflicted flee from their usual abodes to new places where the disorders are unknown only to find that the advance of civilization carries with it the old home seeds.

Something is wrong, the person, the time or the place; and many pet theories are exploded even though the victim hesitates to accept the inevitable explanation of why his sufferings continue. He does not realize that there may be ten or twelve different sparks that annoy him and he rushes from remedy to remedy, from one anti-toxin to another, and then, because he does not light upon the one fitted to his case, he gets discouraged and fights his disorder by indifference. He may learn in time that such troubles as his wear out, and he is surprised and perhaps pleased to know that age has some compensations in store for him, and that he can and does become

more tranquil as the years go on. Occasionally he finds a remedy from the nose-surgeon or the neurologist, but such fortunates are few. The poor man who has the English-imported disturbance is often unable to go away from his usual haunts, and by exercising reasonable care and keeping himself in good order he passes his season in comparative comfort.

It is said that a large city offers as many places of safety as an unknown country, and the man who lives or works in a sky-scraper is less likely to inhale pollen and other irritants. This is worth considering and may offer a solution to a many sided problem.

A few victims of hay-fever have found a safe refuge in the much condemned cold-storage plants where a cool temperature free from all dust is maintained. All hay-feverites cannot live in sky-scrapers or cold-storage houses, but the suggestions may bring comfort to the dreamers.

A chronic asthmatic certainly has a hard life, dying innumerable deaths and perhaps finally outliving his tormentor. He smokes cubeb cigarettes, inhales the smudge of saltpeter and stramonium, and his physician occasionally gives him a hypodermic of apomorphine or adrenalin, but his explosions occur under the most provoking circumstances. His only outlook for a peaceful old age is to keep himself in training mentally and physically. Air, water, exercise, and a wholesome diet will do more for him than drugs except when the attack is on.

THE AMERICAN MEDICAL ASSOCIATION

The Journal of the American Medical Association, in its issue of March 5th, begins a series of editorials in which it will outline its policies and answer the attacks made upon them and the men who are responsible for them. For the past few years the association, and particularly the Editor-Manager of the Journal, have been attacked in every possible way by patent medicine and so-called ethical proprietary business houses and also by private individuals, so that the Journal feels called upon to explain its position fully to its readers. It will probably create a storm of "literature" in reply, but it might as well be thrashed out at one time as another.

The Association and the Journal have made wonderful strides of advancement, and it is difficult to see why a successful organization should be pulled down rather than upheld. The Association has many friends and perhaps many enemies, but the former outnumber the latter.

Those who are at "outs" with the Association or who disapprove its policies feel called upon to criticise the management. The majority of the physicians who are readers of the Journal and who know the personnel of the trustees do not share the apprehension of the critics. To ruthlessly declare that eminent medical men who give their valuable time to the details and business of the Association are rascals, is not good criticism, but it may be that in all the attacks there are suggestions for the strengthening of the Association.

Just criticism will be followed by improvement as the fundamental principle of the organization is to better the interests of the profession. It is hardly supposable that dishonest business methods or personal aggrandizement can be laid at the doors of the Association, yet every attempt will be made to discredit those in authority.

What has been accomplished by the Journal, Collier's Weekly, and other publications will last, and no amount of unfavorable comment can disturb it. The animus behind all of the attacks must be a personal one in some way or other. It is unfortunate that the profession is divided into factions, particularly when one faction seeks to undermine another and thus discredit the whole.

Unity of purpose, and that to upbuild the profession, is the one thing desirable.

THE 1910 A. M. A. MEETING

If the Northwest is to be fitly represented at the 1910 meeting of the A. M. A., in St. Louis in June, it is none too early for physicians to begin their plans to leave their work.

Only the men who attend such meetings, and thus come into contact with the leaders of thought and of action in medical matters, can appreciate the high standing freely accorded in all parts of the country to the medical profession of the Northwest. This high standing and its splendid appreciation have been gained, in part, by our medical laws and our State University Medical School, but, primarily and fundamentally, by the average man in the profession, an average derived from specialists in the city, family physicians in villages, and pioneers on the frontier.

There is not another state, of anything like the age of Minnesota, whose medical men are so well known as contributors to the best medical literature of the world, nor one that can equal ours in the number of medical men of world-wide reputation.

Then, we ask, is it not worth while to send to St. Louis a delegation representative of our state? If so, this appeal is to all classes of the profession; and the number attending the St. Louis meeting should be, at least, gratifying to a just pride in our reputation and commensurate with a duty owed by every man to the community in which he practices, namely, the duty of broadening one's self by contact with his fellow practitioners.

A committee has in charge the arrangement for travel between the Twin Cities and St. Louis, and has issued the following preliminary announcement. It is needless to say that no member of the Committee receives any favor or compensation for his services as a committeeman, for the national laws now prevent any such action by the railroads, direct or indirect.

THE 1910 MEETING OF THE AMERICAN MEDICAL ASSOCIATION

Minneapolis-St. Paul, March 10, 1910.

The meeting of the A. M. A. in St. Louis on June 7-10 will be one of the most important and interesting in the history of the Association; and as St. Louis is a delightful old-time Southern city, noted for its hospitality, a rich treat and a delightful vacation are in store for all who attend the meeting.

The Northwest should send one of the largest and finest bodies of medical men that will be seen at this great gathering; and to provide every possible comfort of travel for the men and their wives who go from this section, the undersigned committee has been organized, and it guarantees that all the comforts of modern travel will be obtained for the party.

Some features of the trip are worthy of special mention:

1. On the way to St. Louis the party will spend most of one entire day and another evening together on the train, thus affording a splendid opportunity for making new and renewing old acquaintances, and it is proposed that no one shall leave the cars unacquainted with any one else in the party.

The Committee is arranging for a special train, and it will probably be run as a section of the Pioneer Limited of the Chicago, Milwaukee & St. Paul Railway, and will be equal in every respect to this famous train.

3. From Chicago to St. Louis the trip will be by daylight, over the Chicago & Alton R. R., and the Northwestern people will thus be enabled to see the great corn-fields of Illinois, which, second to the wheat-fields of the Northwest, are said to be the most beautiful sight in Nature.

4. Stop-overs may be made at Chicago or Milwaukee if desired.

5. The round-trip fare from any point in Western Passenger Association territory will be one and a half times the single fare between such point and St. Louis. Between the Twin Cities and St. Louis the round-trip fare will be \$17.65.

Any desired information will be furnished upon application to the Chairman of the Committee, and complete details of the trip will be published from time to time in THE JOURNAL-LANCET and the St. Paul Medical Journal.

It is hoped that every physician who expects to attend the meeting will notify the Chairman of the Committee at the earliest possible date.

MINNEAPOLIS.

ST. PAUL.

F. C. TODD, M. D., Chairman

BURNSIDE FOSTER, M. D.

A. W. ABBOTT, M. D.

THOS. McDAVITT, M. D.

GEO. G. EITEL, M. D.

ARTHUR SWEENEY, M. D.

MAX VANDER HORCK, M. D.

A. J. GILLETTE, M. D.

BOOK NOTICES

EXAMINATIONS OF THE URINE: A manual for students and practitioners. By G. A. DeSantos Saxe, M. D., instructor in Genito-Urinary Surgery, New York Post-Graduate Medical School and Hospital. Second edition, enlarged and reset. 12 mo of 448 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1909. Cloth, \$1.75 net.

All too commonly the practicing physician leaves to an assistant or to one engaged only in laboratory work, the examination of specimens and even the interpretation of the findings. On this account laboratory results are often discredited, and we frequently hear laboratory diagnoses spoken of in a disrespectful way, it evidently being forgotten that the best results are obtained only where there is a proper correlation of clinical and laboratory studies. To assist in remedying this evil, so far as urinary studies are concerned, has been this author's aim, and in this pursuit he has prepared an excellent little book. Though well adapted to the use of under-graduate students the book seems especially suited to the general practitioner. The clinical side of urinary diagnosis has been greatly emphasized and at every point the author has aimed to explain the meaning of special findings.

The work is divided into the following five parts: Part I General Considerations. Part II Chemic Examination of the Urine. Part III Microscopic Examination. Part IV Urinary Diagnosis, and Part V Functional Renal Diagnosis. In the appendix is found directions for the routine examination of the urine together with a list of re-agents, apparatus needed, etc.

There is evidently, throughout the book, a special effort to leave out of consideration the mooted points and elaborate methods, and only those methods, which, on trial, have been found

useful, are admitted. With its clear and concise directions for examination, and its careful consideration of the points bearing on interpretation, the book is thoroughly satisfactory as a working manual, and a fairly careful reading of it finds much to praise and little to condemn.

HANDBOOK OF THERAPY. Cloth. Price, \$1.50.

Pp. 421. Chicago: American Medical Association, 1910.

The Therapeutic Department in The Journal of the American Medical Association has been commented on so often and so favorably that the Association decided to reprint, in book form, the articles which seemed to be of most practical value to the general practitioner. Conditions governing therapeutic requirements are stated as clearly and concisely as possible. Special care has been taken to avoid unusual drugs, and with rare exceptions the formulas given are combinations which can be easily compounded by any pharmacist.

Besides the articles on therapy, the book contains a list of the articles accepted by the Council on Pharmacy and Chemistry for inclusion in new and non-official remedies, as well as tables and compilations of miscellaneous data.

The book is of convenient size for the pocket or the satchel.

SPONDYLOPTHERAPY: Spinal Concussion and the Application of Other Methods to the Spine in the Treatment of Disease. By Albert Abrams. Cloth. Pp. 400. The Philopolis Press, San Francisco, 1910.

In this book Dr. Abrams has collected a great deal of information concerning the spinal cord and its various pathologic manifestations. For years he has been studying various reflexes, more or less unknown to the rank and file of the medical profession, to which he has given the names *vertebral* and *visceral reflexes*, and this book contains a thorough exposition of his views on the subject.

Though not exactly upholding a brief for osteopathy and chiropractic, the author, nevertheless, believes thoroughly in spinal therapeutics and thinks that the medical profession has allowed a few men, working empirically, to monopolize a fruitful field. He has endeavored to put in systematic order a great many isolated facts in reference to the anatomy of the spine and its symptomatology and has pointed out a variety of simple methods of treatment, for which he claims extraordinary results. Whether the findings of other men, working in

the same field, will be the same, and whether they can secure equally brilliant results from the same treatment, remain to be determined. To condemn ideas founded on observation of which the ordinary physician knows practically nothing, would be premature, and for the present we must be content to say that the facts, as detailed, are important, if well founded.

REPORTS OF SOCIETIES

MINNESOTA ACADEMY OF MEDICINE

The Academy met at the Minneapolis Club Wednesday evening, March 2d. Dinner was served at seven o'clock to twenty-eight members and two guests, and the program followed.

Dr. C. M. Carlaw reported a case of extra-uterine pregnancy with rupture into the right broad ligament and hematoma extending beneath the peritoneum to the left broad ligament.

Dr. F. A. Dunsmoor reported a case of typhoid perforation of twenty-four hours' standing, which was operated upon and is doing well.

Dr. J. C. Litzenberg reported a case diagnosed as pernicious vomiting in pregnancy, but which disclosed a tumor on palpation. Operation showed uterus bipartus with pregnancy in one horn.

Dr. J. M. Armstrong read a paper on "The Epidemic of Poliomyelitis in St. Paul," which was discussed by Drs. Ramsey, Staples, Carlaw, Rees, Gilfillan, Christison, Sneve, Dr. Meubius of Jamestown, N. D., and Dr. Cowan of North St. Paul, and by Dr. Armstrong in closing.

J. S. GILFILLAN, M. D., Sec. pro tem.

HENNEPIN COUNTY SOCIETY

A regular meeting of the Society was held on February 7th, with the president, Dr. C. A. Donaldson, in the chair and fifty members present.

The Society received a communication from President Northrop requesting the appointment of a representative on the committee of sixty to have charge of the arrangements for the meeting of scientists in this city next winter. The chair was authorized to appoint the delegate, and appointed Dr. Leo M. Crafts.

The dues for the current year were fixed at \$8.00, an addition of \$1.00 for medical defense.

Drs. James S. Reynolds, Petrus Nelson, and

H. G. Irbine were elected members of the Society.

Dr. H. L. Staples, chairman of the committee on a reduction in telephone rates, moved that the committee be discharged as the Telephone Company has recently reduced the rates. Carried.

Committees were appointed by the chair and vacancies filled, making the committees for the year stand as follows: Special Study Committee,—Drs. D. O. Thomas, G. C. Barton, H. H. Leavett, O. McDaniel, and C. A. Reed; Good-fellowship Committee,—Drs. G. P. Crume, A. N. Bessesen, Geo. F. Roberts, W. H. Aurand, and W. M. Chowning; Library Committee,—Drs. J. P. Sedgwick, O. Owre, and A. S. Hamilton; Milk Committee,—Drs. G. H. Haggard, J. C. Litzenberg, and Robert Williams; Board of Public Instruction,—Drs. C. F. Nootnagle, E. K. Green, and Emil S. Geist; Committee on Necrology,—Drs. G. W. Bass, A. E. Hedbach, and G. Deziel.

Dr. Leo M. Crafts read a paper on "Reflex Action," and the same was discussed at length.

Dr. F. R. Wright read a paper on "Spinal Anesthesia," which was also fully discussed.

C. H. BRADLEY, M. D., Secretary.

NEWS ITEMS

Dr. H. O. Grangaard, of Illinois, has located at Mayville, N. D.

Dr. Gustav Hoff has moved from Sheldon, N. D., to Zumbrota.

Dr. F. T. Ghostly has moved from Blackduck to International Falls.

Dr. P. H. Brown has moved from Spearfish, S. D., to Sisseton, S. D.

Dr. P. T. Geyerman, of Worthington, has moved to Hot Springs, S. D.

Dr. J. E. Hetherington, a recent graduate of Jefferson, has located at Valley City, N. D.

Dr. C. K. Stewart, who has been practicing at Janesville, has gone to Morecroft, Wyoming.

The citizens of Winona are urging their Board of Education to adopt medical inspection in the public schools.

Rugby (N. D.) opened its \$75,000 hospital last month, and patients began to enter it as soon as the doors opened.

Dr. E. W. Clark of Grinnell, Iowa, president of the Iowa State Medical Association, died last month at the age of 66.

Dr. William J. Mayo, of Rochester, has gone to Europe and will make an extended tour, visiting all the medical centers.

Dr. Wilson Randolph has decided to resume practice at Crookston. He has been doing post-graduate work in Detroit and Chicago.

The citizens of Minot, N. D., are very enthusiastic over plans for a hospital for that city to be conducted by the Benedictine Sisters.

Drs. Dunn, Lewis and Kern, of St. Cloud, have moved into their new building, which is said to be one of the most complete office buildings built for physicians anywhere in the West.

The Stark County (N. D.) Medical Society met last month at Dickinson and elected officers as follows: President, Dr. V. H. Stickney, vice-president, Dr. H. A. Davis; secretary, Dr. J. W. Weyrens.

Dr. H. G. Parker, of Portland, Oregon, who formerly practiced at Madison Lake, Minn., has returned from Europe where he has been doing post-graduate work. He stopped at Madison on his way home.

Mr. Robert Stern, of Fargo, has presented funds to the North Dakota Children's Home to establish a cottage hospital in connection with the home. He does this in memory of an infant son who died last summer from infantile paralysis.

It is reported that a sanitarium will be built this summer at Cold Springs. Drs. Lalonde and Sutton, of that place, will give it their support. A large tract of land has been purchased for this purpose, and a building to cost \$25,000 is talked of.

Dr. Wm. M. Memminger, of Glasgow, Montana, died last month from blood-poisoning, due to a slight scratch on the finger received during an operation. Dr. Memminger was an extensive contributor to medical journals, and had made a wide reputation.

Jamestown, N. D., seems assured of a new general hospital. A board of directors has been formed and consists of the following: Drs. A. W. Guest, Gustav Goldseth, P. G. Artz, Helena K. Wink, and Wm. A. Gerrish. The capital stock of the company is \$50,000.

The Alpha Kappa Kappa medical fraternity met last month in Minneapolis, and had planned to have as their guests Drs. C. H. Mayo, Christopher Graham, and W. C. McCarty, of Rochester, but all trains from Rochester were blocked, and the guests came not.

A fire in the Stein Hospital at Dickinson, N. D., did considerable damage, and for a time a patient's life was in danger. The best fire-proof construction is none too good for every hospital building, but its cost will prevent its use in many places for a long time.

The plans for conducting a large hospital at St. James have been perfected, and the well-built and commodious hotel structure of that city has been purchased. Dr. W. H. Rowe, of St. James, is president, and Dr. C. C. Manger, of the Minneapolis Sanitarium, is secretary and manager.

Dr. J. E. Moore, who was seriously injured by a falling wall while giving a lecture before one of his classes at the State University, is greatly improved, and will probably soon be able to resume his work. The deplorable accident came near costing the lives of Dr. Moore and several students.

Dr. John H. Rishmiller, of Minneapolis, who now holds the position of chief surgeon of the Soo Line, which has nearly one hundred and fifty local and district surgeons, has organized them into an association for the advancement of railway surgery, which is very largely emergency work and calls for a large variety of operations.

The right of a school board to employ physicians or nurses to carry on medical inspection in public schools, has been tested in the district court of Hennepin County and decided in favor of the Board of Education. The suit was instituted to protect city officials in paying out funds under their control, and not to prevent medical inspection.

The Northwestern Alumni Association of the Medical Department of the University of Pennsylvania met last month at the Minnesota Club in St. Paul. Officers were elected for the current year as follows: President, Dr. Archa E. Wilcox; treasurer, Dr. W. A. Yardley, St. Paul; secretary, Dr. A. S. Hamilton, Minneapolis; historian, Dr. T. S. Roberts, Minneapolis.

REPORTED FROM 72 CITIES HAVING A POPULATION OF 1,000 OR UPWARDS

FOR THE MONTH OF DECEMBER, 1909

CITIES.	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Acute Anterior Polio Myelitis	Typhoid Fever	Diarrheal Diseases of Children	Cancer	Puerperal Septicemia
Albert Lea	4,500	5,657	4			1											
Anoka	3,769	4,053	3														
Austin	5,474	6,489	4			1											
Barnesville	1,326	1,566	0														
Bemidji	2,183	3,800	3			1											
Blue Earth	2,900	2,364	2														
Brainerd	7,524	8,131	10	1		2		1									
Chaska	2,165	2,085	1														
Chatfield	1,426	1,300	0														
Cloquet	3,074	6,117	3	1													
Crookston	5,359	6,794	3			1											
Detroit	2,060	2,149	2	1													
Duluth	52,968	64,942	99	10	2	12		1	1	1							
East Grand Forks	2,077	2,488	2														
Ely	3,712	4,045	6		1												
Eveleth	2,752	5,332	5														
Faribault	7,868	8,279	9	2		2											
Fairmont	3,440	2,955	2														
Fergus Falls	6,072	6,692	3	1													
Granite Falls	1,214	1,340	0														
Hastings	3,811	3,810	2														
Hutchinson	2,495	2,489	0														
Jordan	1,270	1,311	2														
Lake City	2,744	2,877	2														
Litchfield	2,280	2,415	3	1													
Little Falls	5,774	5,856	4														
Luverne	2,223	2,272	3														
Le Sueur	1,937	1,842	2														
Madison	1,336	1,604	2														
Mankato	10,559	10,996	8														
Marshall	2,088	2,243	2														
Melrose	1,768	2,151	4														
Minneapolis	202,718	261,974	254	29	2	28		18	6								
Montgomery	979	1,281	0														
Montevideo	2,146	2,595	2														
Moorehead	3,730	4,794	8	1													
Morris	1,934	2,003	1														
New Prague	1,228	1,419	1			1											
New Ulm	5,403	5,720	5	1													
Northfield	3,210	3,438	3														
Ortonville	1,247	1,612	2			1											
Owatonna	5,561	5,651	3														
Pipestone	2,536	2,885	3			1											
Red Lake Falls	1,885	1,797	1														
Red Wing	7,525	8,149	14		1												
Redwood Falls	1,661	1,806	3														
Renville	1,075	1,229	1														
Rochester	6,843	7,233	17	2													
Rushford	1,100	1,133	3														
St. Charles	1,304	1,238	0														
St. Cloud	8,663	9,422	9														
St. James	2,607	2,320	1														
St. Paul	163,632	197,323	203	21	1	26	1	14		1			1	6	1	4	2
St. Peter	4,302	4,514	2														
Sauk Centre	2,220	2,463	4	1		1											
Shakopee	2,046	2,069	3	2													
Sleepy Eye	2,046	2,312	5	1		1											
South St. Paul	2,322	3,458	5	2					2								
Stillwater	12,318	12,435	10	2													
Thief River Falls	1,819	3,502	3														
Tower	1,366	1,340	0														
Tracy	1,911	2,015	0														
Virginia	2,962	6,056	5			1											
Wabasha	2,528	2,619	2														
Warren	1,276	1,640	1														
Waseca	3,103	2,838	1														
Waterville	1,260	1,383	1														
West St. Paul	1,830	2,100	0														
Willmar	3,409	4,040	2					1									
Windom	1,944	1,884	3	1													
Winona	19,714	20,334	26			2			1					1			2
Worthington	2,386	2,276	2														

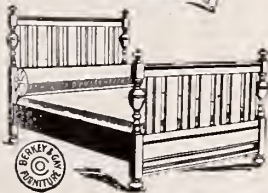
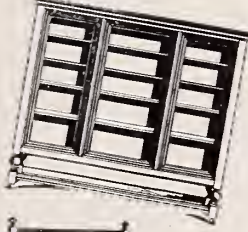
*No report received. Health officer notdoing his duty.

REPORTED FROM 65 VILLAGES HAVING A POPULATION OF 1,000 OR UPWARDS
FOR THE MONTH OF DECEMBER, 1909

VILLAGES.	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Acute Anterior Polio Myelitis	Typhoid Fever	Diarrheal Diseases of Children	Cancer	Puerperal Septicemia
Ada	1,253	1,515	1			1											
Adrian	1,258	1,184	1														
Aitkin	1,719	1,896	0														
Akeley		1,636	0														
Alexandria	2,681	3,051	2														
Appleton	1,184	1,321	1														
Belle Plaine	1,121	1,301	1														
Benson	1,525	1,766	0														
Breckenridge	1,282	1,850	0														
Buffalo	1,040	1,124	0														
Caledonia	1,175	1,405	1														
Canby	1,100	1,505	0									1					
Cannon Falls	1,239	1,460	1														
Cass Lake	546	1,062	1														
Chisholm		4,231	10			5											
Dawson	962	1,056	1			1											
Delano	967	1,023	1														
Fosston	864	1,000	1														
Frazee	1,000	1,146	3			1											
Glencoe	1,780	1,805	0														
Glenwood	1,116	1,718	1					1									
Graceville	856	1,032	1														
Grand Rapids	1,428	2,055	0														
Hallock	805	1,014	0														
Hibbing	2,481	6,566	15	3		3		2									
Jackson	1,756	1,776	1														
Janesville	1,254	1,205	1														
Kasson	1,112	1,049	1														
Kenyon	1,202	1,252	1	1													
Lake Crystal	1,215	1,231	1												1		
Lanesboro	1,102	1,041	1														
Long Prairie	1,385	1,256	3														
Madelia	1,272	1,290	0														
Milaca	1,204	1,319	0														
Mountain Lake	959	1,063	1														
North Mankato	939	1,129	1												1		
North St. Paul	1,110	1,400	0														
Olivia	970	1,019	2						1								
Osakis	917	1,056	1														
Park Rapids	1,313	1,719	0														
Pelican Rapids	1,033	1,095	1									1					
Perham	1,182	1,366	6	1													
Pine City	993	1,092	0														
Plainview	1,038	1,140	0														
Preston	1,278	1,320	2												2		
Princeton	1,319	1,704	1														
Rush City	987	1,041	1			1											
Rushford	1,062	1,040	1														
St. Louis Park	1,325	1,491	0														
Sandstone	1,189	1,589	1														
Sauk Rapids	1,391	1,552	3			1										1	
Scanlon		1,122	1														
South Stillwater	1,422	1,572	0														
Springfield	1,511	1,546	3	1													
Spring Valley	1,770	1,573	1														
Staples	1,504	2,163	0														
Two Harbors	3,278	4,402	4														
Wadena	1,520	1,868	1														
Wells	2,017	1,814	1														
West Minneapolis	2,250	2,530	1														
Wheaton	1,132	1,346	1														
White Bear Lake	1,288	1,724	1														
Winnepago City	1,816	1,553	2											1			
Winthrop	813	1,031	0														
Zumbrota	1,119	1,129	1														
State Institutions			22	4	1	4								1			
Other parts of State	1,012,328	1,085,886	679	46	9	53	9	25	7	1		4	4	11	16	43	2
Total for State	1,751,395	1,979,658	1604	136	17	154	10	63	18	3		6	7	49	41	97	

*No report received. Health officer not doing his duty.

159 Still births and premature births, not included in above totals.



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THE FURNITURE SENSATION OF THE YEAR



Here is something in furniture that will please you.

Flanders furniture is suitable for any room requiring the soft oak tones so much in vogue. We have it for the bed-room, the dining-room and the library, all in Berkey & Gay's best designs and manufacture.

We are able to show by means of a magnificent portfolio of photogravures, Berkey & Gay's complete line of over two thousand pieces of furniture of their manufacture, the highest grade furniture in the world, made in a factory with fifty years of experience behind it and of such enormous capacity that the cost of production is reduced to such an extent that our prices on

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PUBLISHER'S DEPARTMENT

A GREAT ELECTRIC SHOW

The holding of an Electric Show, organized upon the plan of similar shows being held this year at Chicago, Philadelphia and San Francisco, to occur at the National Guard Armory in Minneapolis the week of March 26th to April 2nd, is one of the most progressive steps noted among the lines of endeavor for development and improvement. All the leading manufacturers of electrical apparatus and appliances in the United States will be represented in exhibits occupying one hundred booths and the sum of \$25,000 will be expended in preparations before the Armory is opened to the public Saturday evening preceding Easter Sunday.

It is called a "show" because of its brilliant and novel effects, which are calculated to entertain even the careless element of the public, but in reality it is an educational exposition that will demonstrate the many ways in which electricity can be employed with economy, a vast saving of labor, cleanliness, and convenience, as a motive power and for furnishing light and heat.

While at first thought the Electric Show would seem to appeal chiefly to the manufacturer seeking to increase his output at a minimum of cost, to the storekeeper looking for attractiveness in illumination, or to the housewife planning for the beautification of her home, perhaps no class of citizens should be more directly interested than the medical profession.

The application of electricity to surgery is leading to improvements constantly that verge upon

THE JOURNAL OF THE MINNESOTA STATE MEDICAL

discoveries. The physician or surgeon who would be up-to-date and abreast with his profession should be in a way a constant student of the science of electrical engineering. It is electricity that has made the human body almost transparent and has rendered possible operations of extreme delicacy that are almost miraculous. The benefits to be derived from electrical vibratory apparatus are manifold, and the employment of electricity as a beneficial agent for the treatment of nervous ailments opens up a broad field for investigation.

At the Electrical Show held in Chicago in January there were exhibits that greatly interested the medical fraternity, and the management of the Minneapolis Electric Show is endeavoring to secure some of their most interesting features.

In a broad sense, those who have at heart public welfare will be interested in the exhibits generally, which show inventions for ventilation and sanitation through the medium of vacuum-cleaning devices, for the regulation of temperature, lighting effects calculated to rest the eye, refrigeration processes for the preservation of foods, and other appliances of electricity that are disease-preventives. The little electric motor that runs a sewing machine, the carpet-sweeper, the electric washing-machine, and other inventions which lessen household drudgery and are boons to womankind, should have the encouragement of every physician.

In the way of special attractions there have been secured demonstrations with working models of the gyroscope monorail, and the transmission of aerial messages by the means of wireless telegraphy, in which a dirigible balloon is to be used. There is to be music by Rossiter's band of fifty pieces, with Miss Blanche B. Mehaffey, soprano, as soloist. There will be a scheme of illumination that will be unique and brilliant, and thus the show will not be lacking in features that entertain, as well as instruct.

WHY YOU SHOULD BUY A REGAL

In 1907 the Regal Motor Car company built and sold for \$1,250.00 the original car in its class. It has always more than maintained its leadership in this class,—leadership in quality, style and perfection of all working parts. The Regal "30" of today is not a new car, but an evolutionary product, a good car with years of experience back of it, which has been continually improved and refined, until today it stands unquestionably recognized as the greatest automobile value in America for \$1,250.00.

You should buy a Regal "30," because we positively know that in buying a Regal car you get better value for \$1,250.00 than you can duplicate in any other car listed at less than \$2,000.00. Its perfect construction, superior quality of material used, beauty of design and easy riding qualities most readily recommend it to the most exacting buyer. The Regal "30" is a beautiful traveler on rough roads and an exceptional hill climber. Anything you want in any car at any price you'll find in the Regal. Regal "30" can accomplish anything any other can. The cost of maintenance and upkeep is at a minimum. The manufacturers have not been annually expending enormous sums in experimenting on new cars, but every effort has been directed toward the perfection of the Regal "30." This car is a finished product in every detail and readily

meets the demands of the most critical purchaser. It is a quality car, without the unnecessary and expensive frills.

The Haynes Automobile Co., 219 South Sixth street, Minneapolis, are distributors for Regal cars for the entire Northwest.

CONSTRUCTIVE, NOT DESTRUCTIVE, THERAPEUTICS

There is a conviction among physicians of today that the prolonged administration of such drugs as the bromids, hyoscyamus, and valerian in cases of nervous disturbances attending the termination of the menstrual function, is highly detrimental to the future welfare of the patient. The opinion is now general that such treatment is destructive rather than constructive in nature.

It is now held that, inasmuch as the mental states, such as hysteria and melancholia, which are frequently manifested at this period of life, have for their exciting cause alterations of the sexual system, it is proper that their relief be accomplished by the employment of agents that exert an influence directly on these parts.

It is conceded that the sedatives mentioned do afford a certain measure of palliation, but experience seems to have proved that they are ultimately injurious rather than beneficial in action.

The use of utero-ovarian stimulants, particularly those which are primarily antispasmodic in action, has been so uniformly more satisfactory than general sedatives that the employment of the former is now urged by our most eminent practitioners.

If, at the approach of the menopause, such an agent as Ergoapiol (Smith) is administered with due regularity, irritability of the sexual system and disturbance of the nervous system will be prevented. Under such treatment, normal atrophy of the reproductive organs takes place without the development of the neurotic disturbances commonly associated with the physiologic change of life.

On account of its antispasmodic and tonic action on the female reproductive organs, Ergoapiol (Smith) is particularly serviceable in instances where the menopause is being approached by women of nervous temperaments.

Under the influence of this preparation the so-called "change of life" is relieved of its characteristic discomforts. The mental as well as the physical state of the individual is benefited by the administration of Ergoapiol (Smith) in doses of one capsule three times each day.

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"Kelene" (Fries Bros.) is a pure chloride of ethyl, and is furnished only in new glass automatic spraying tubes; no empty returned tubes are ever accepted. A large saving in cost might be made by buying up tubes already used. But the risk of spreading infection is too great to take any chances. This is specially applicable to metallic tubes, which offer a peculiar temptation to collect and refill. Metallic Containers have been entirely discarded by Fries Bros., as unsanitary. The purity of the product can only be relied upon when stored in glass. The collection and refilling of empty tubes from dispensaries and hospital throughout the county where "Kelene" or chloride of ethyl is extensively used in clinics, is a dangerous economy and

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should be discouraged by operating physicians. The absolute purity of the product of Fries Bros., is guaranteed by their glass automatic spraying tubes, and can be used with implicit confidence. As preliminary to Ether and Chloroform in General Anesthesia it gives the utmost satisfaction. Complete relaxation is effected in 30 seconds with entire freedom from disagreeable or dangerous after effects. When chemically pure, chloride of ethyl is a stable solution. "Kelene" is pure chloride of ethyl, and requires no steam valve for discharge, simply press the lever, and the automatic sprayer will do the rest.

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The publisher of a reputable journal never likes to admit to the columns of his paper the advertisement of an article of inferior quality, and he is greatly pleased when his columns are filled with advertisements of things of the highest grade. Only the latter class gain admittance to our columns. On another page will be found a new announcement of the Allison line of physicians' office appliances, including office furniture. The Allison examining table is by far the best made table on the market. It is handsomely designed, and is built just as well as it is designed. And the entire line of Allison goods are up to the high mark of the table; and therefore if a physician finds anything made by them and needed by him, he has the assurance that such article will be in the same class as the Allison table. This is indeed high praise.

Their new catalogue, printed in colors, is out, and will be sent upon request made either to the home office in Indianapolis, or to their branch office (The Lewis Equipment Co., 314 Medical Building, Minneapolis).

LACTO-SANTAL

Lacto-Santal is a compound derived from sandalwood oil for internal use in inflammatory catarrhal conditions of the bronchial and genito-urinary tracts.

It is prepared from lactic acid and the purest sandalwood oil distilled from the best Mysore wood, which by appropriate chemical manipulation yields an almost pure santalol lactate. For internal administration this santalol lactate is dispensed in capsules of 25 centigrams (five drops) under the name of Lacto-Santal. While Lacto-Santal has similar properties to sandalwood oil, it has certain advantages, viz.:

1. It does not produce nausea or eructations.
2. Is pleasant rather than disagreeable to the palate, and not offensive as are the balsams.
3. It does not cause dyspepsia.
4. It does not congest or irritate the renal epithelium or give rise to albumin in the urine.
5. It renders the urine alkaline and relieves painful micturition rapidly.
6. It has a soothing and antiseptic action on all mucous membranes especially those of sensitive and irritable bladders.
7. It is distinctly useful in the treatment of bronchial irritation, catarrh, and is especially adapted

to inflammatory conditions of the genito-urinary tract.

While the internal medication of urethritis has for a time been neglected by genito-urinary authorities, there is a tendency to return to the use of sandalwood oil and its derivatives. Lacto-Santal while chemically combined with lactic acid, leaves as residual products after decomposition of the santalol lactate, only santalol, carbonic acid and water.

One of the advantages recognized in the use of internal medication with sandalwood oil is the fact that when the blood becomes saturated with this antiseptic drug, the danger of gonorrheal rheumatism, cystitis, pyelitis, prostatitis, epididymitis, etc., is reduced.

Lacto-Santal, therefore, should be looked on as a valuable auxiliary to the local treatment of acute cases of urethritis with silver colloid preparations and as a means of preventing complications in chronic cases. The prophylactic and soothing action of the Lacto-Santal on the anterior urethra is marked for the distressing subjective symptoms such as painful micturition, and painful erections are avoided to a great extent and the severe inflammatory condition of the urethra controlled. In affections of the posterior urethra, the effects are equally good.

Joint affections are avoided and the percentage of posterior involvement is reduced, while the likelihood of severe stricture is lessened. In conclusion, while no more a specific against gonorrhea than any other drug, it tends to relieve acute symptoms and improve local conditions. It must not be understood that it can be relied on alone in the cure of urethritis of gonorrheal origin; however it certainly alleviates the suffering and lessens the danger of prostatic involvement.

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A household magazine of large circulation asked its readers to name their most useful housekeeping aid, and offered prizes for the best answers. A very large number of replies named ten different articles, such as the fireless cooker, the food chopper, the electric iron, the vacuum cleaner, cleansing powders, etc. The fireless cooker stood at the head of the list. The short letters received and published were admirable.

In a recent interview the president of Swift & Company, the large packers, gave as a reason for the high prices of meat the demand for the fancy cuts, and the improper cooking of all grades of meat. As a remedy he recommends the use of the lower-priced cuts and their preparation in the fireless cooker, which makes them just as palatable and even more nutritious and healthful.

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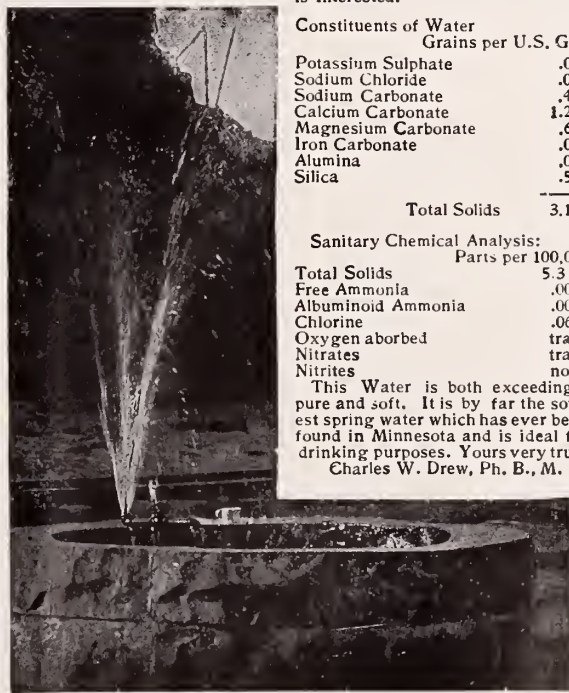
Constituents of Water	
Grains per U.S. Gal.	
Potassium Sulphate	.042
Sodium Chloride	.057
Sodium Carbonate	.431
Calcium Carbonate	1.294
Magnesium Carbonate	.667
Iron Carbonate	.016
Alumina	.012
Silica	.581

Total Solids 3.100

Sanitary Chemical Analysis:

Parts per 100,000	
Total Solids	5.3
Free Ammonia	.0006
Albuminoid Ammonia	.0025
Chlorine	.06
Oxygen absorbed	trace
Nitrates	trace
Nitrites	none

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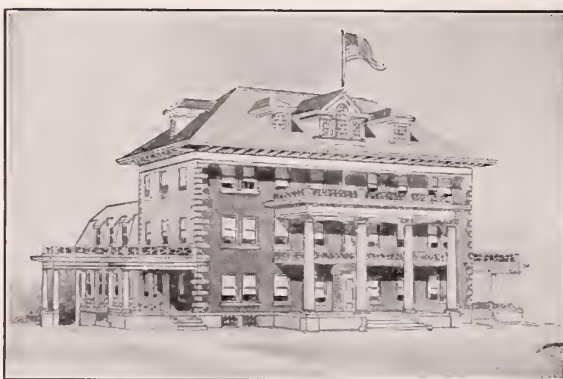
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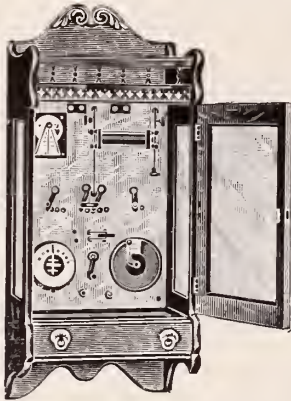
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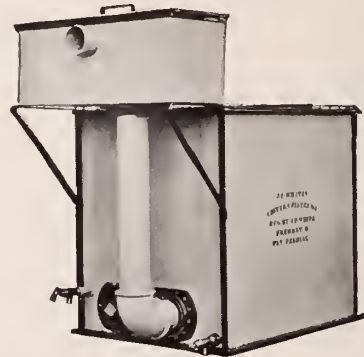
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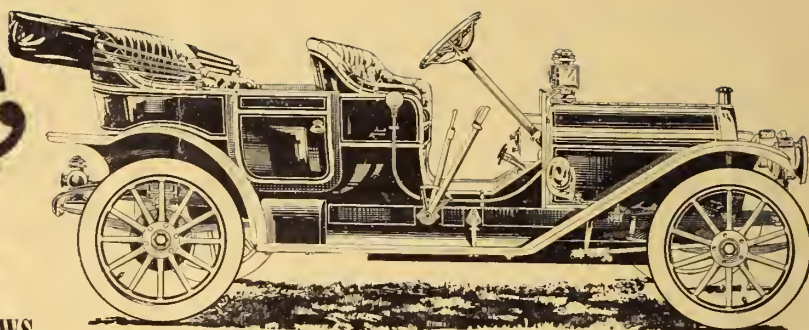
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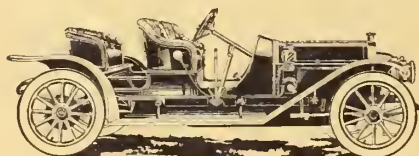


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PUBLISHED TWICE A MONTH

New Series
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MINNEAPOLIS, APRIL 1, 1910

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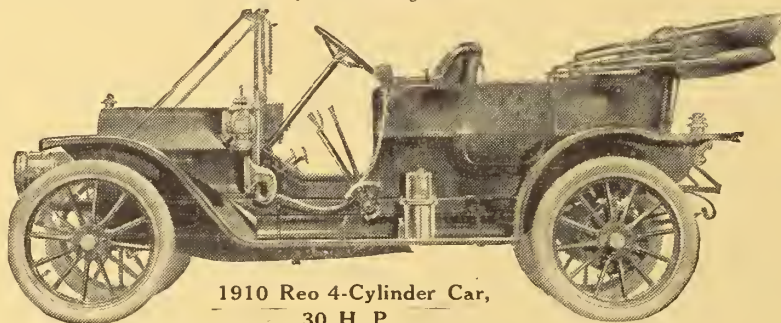
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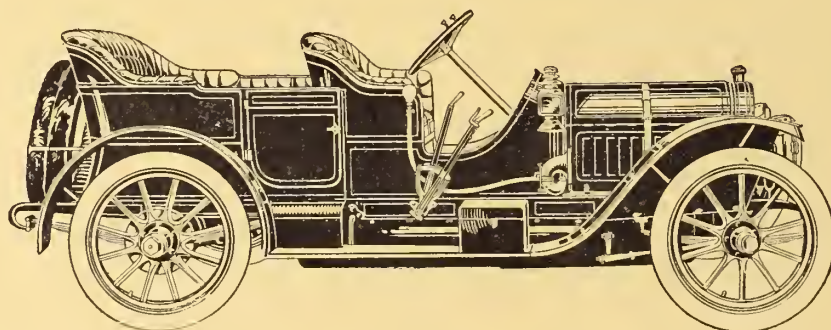
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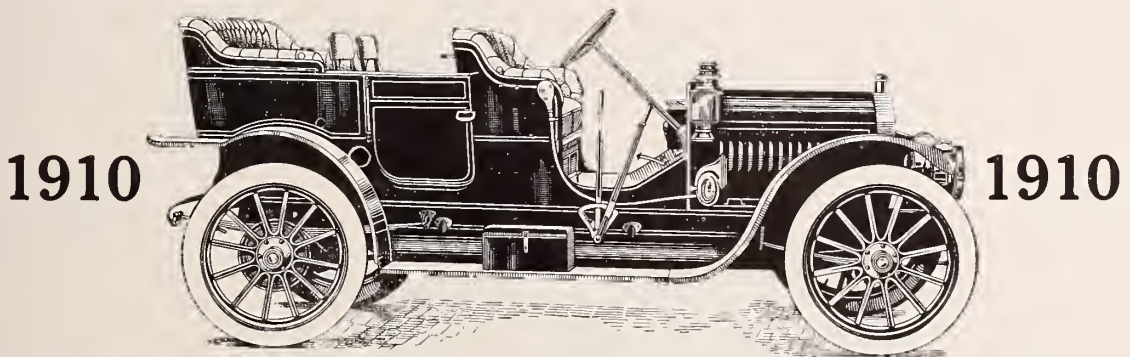
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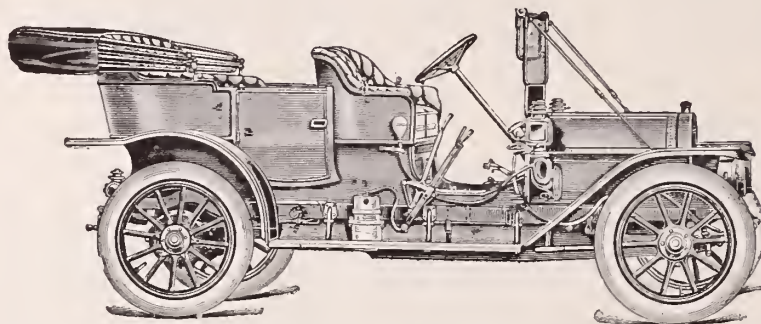
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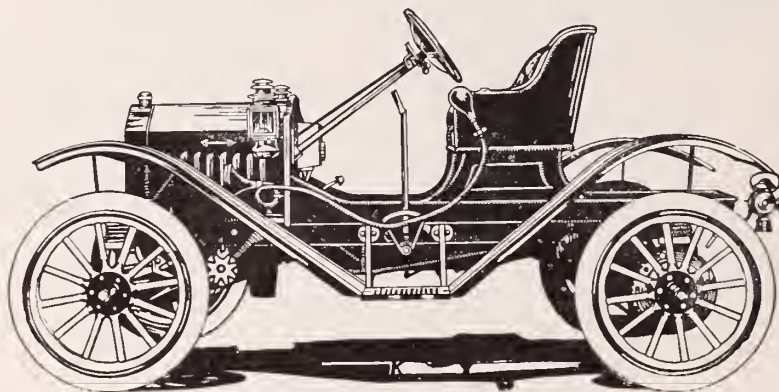
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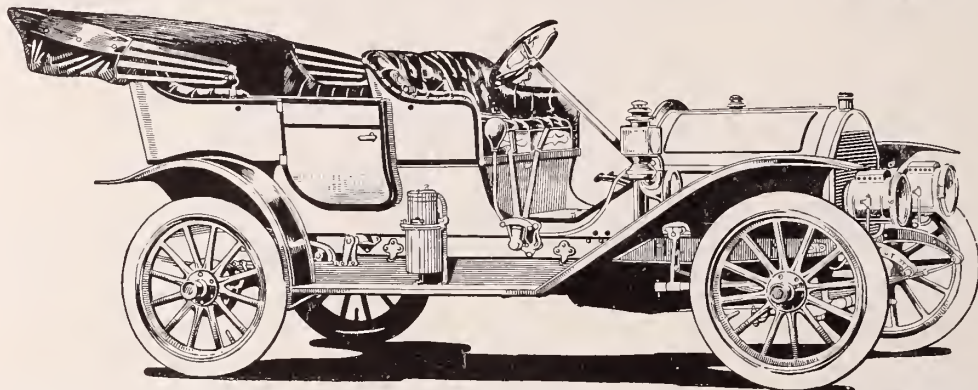
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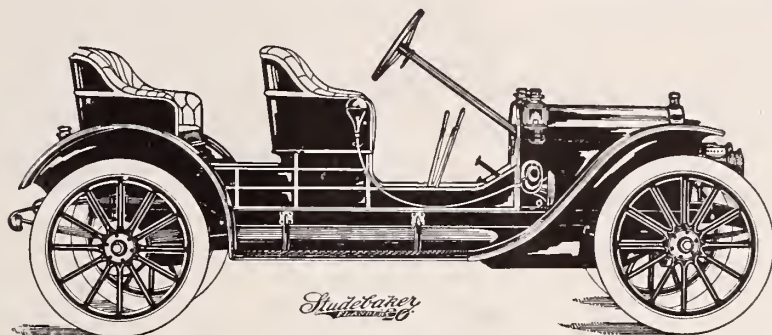
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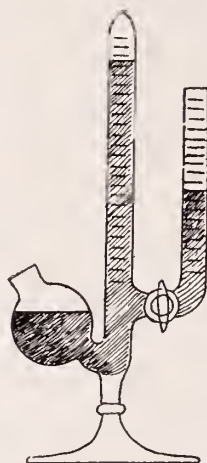
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ESTABLISHED 1870

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VOL. XXX

APRIL 1, 1910

No. 7

OBSTRUCTION OF THE BOWELS*

BY ARTHUR T. MANN, M. D.

Professor of Clinical Surgery, University of Minnesota, and Surgeon to the Northwestern Hospital

MINNEAPOLIS

Obstruction of the bowels is of interest to us all, to the general practitioner as well as to the surgeon. The mortality of these cases is frightfully high. This in itself is enough to justify a careful consideration of the subject in the hope that a free discussion may help us to somewhat better results in this difficult field.

The main causes of obstruction you are familiar with; on the one hand the mechanical obstructions due to strangulation from hernial openings, from adhesions and from bands and cords, including fetal remains; to knots and twists of the bowel, to intussusception; and to abnormal bodies in the bowel, such as gall-stones; all of which are more active in producing acute intestinal obstruction, ninety per cent of which occur in the small bowel; and to strictures and tumors which are the common causes of chronic obstruction, more than ninety per cent of which occur in the large bowel; and on the other hand, the dynamic obstructions due to peritonitis, to embolism and thrombosis of the mesenteric vessels, to hysteria, to nerve injuries and reflexes, and to acute hemorrhagic pancreatitis.

With obstruction from the mechanical causes the intensity of the symptoms depends for the most part upon the tightness of the constriction and the length of time it has endured. The general symptoms, as you know, are constipation or obstipation, abdominal pain, vomiting, tympanites, and more or less collapse. Constipation or obstipation is the only symptom due directly

to the obstruction. Pain is usually caused by the constriction and is due to the dragging pull on the nerves. It is apt to be severe from the start, increased by peristalsis of the loop of bowel above the constriction and relieved at times by the slight passage of gas and feces through the constriction. Therefore, while pain is almost constantly present it usually has some exacerbations and remissions. When the onset of the obstruction is sudden the constriction is apt to be tight, therefore the pain is usually severe. The pain may be in any part of the abdomen where the constriction exists, but, as a rule, it is easily differentiated from the pain of an appendicitis. As a result of the constriction also we have the shock or collapse. This is usually directly in proportion to the tightness of the constriction, as well as to its duration.

Distension of the bowel loops with gas begins in the loops immediately above the constriction. If seen early, this will aid materially in locating the site of the lesion, by localized enlargement, tympany, and localized peristalsis; for peristalsis is increased many times more than normal in the bowel loops just above an obstruction, especially an obstruction in the small bowel, where the great majority of the acute cases occur. This peristalsis can easily be elicited in the earlier periods by a slight tapping with the finger on the abdominal wall, and usually it can be seen running on of its own accord. This peristalsis is persistent and usually does not cease until the bowel is paralyzed by a spread-

*Read before the Aberdeen District Medical Society of South Dakota at Aberdeen, S. D.

ing diffuse peritonitis. Sometimes an obstructed coil can be palpated. It shows greater resistance and less motion than the other coils and it will be felt in the same place on repeated examinations. All of this means that, usually, enlargement in the central portion of the abdomen points toward an obstruction in the small bowel, and in the right side of the abdomen it points toward a constriction in the small bowel, due to a band or an adhesion near an appendix, or a pus tube, or to a Meckel's diverticulum. As is well known, a Meckel's diverticulum, the remains of the omphalomesenteric duct or a band which sometimes takes its place, is attached some two feet from the lower end of the ileum and is prone to cause strangulation of the bowels, acting as a band or cord in which the outer end remains attached to the umbilicus or has become free and afterwards has grown fast to a neighboring loop of bowel, to a mesentery, or to the abdominal wall, possibly pointing to a persistence of tissues about some branch of a blood-vessel which used to give it supply. This makes the band fastened at both ends, under which one or more loops of the bowel may be caught and strangulated.

In regard to vomiting as a symptom: It comes too early in cases of strangulation to be due to the obstruction. Its early appearance is purely a reflex from the irritation of the strangulation on the nerves in the bowel wall. Later, when the bowels fill with gas and liquids, it is easy to see how, when the stomach is emptied by vomiting and the pylorus is relaxed, the intestinal contents may overflow backwards into it, and how the bowel mechanism finding the futility of its long persisting efforts to force the contents through the point of constriction, starts a reversed peristalsis, in order to rid itself of the decomposing materials with which it is filled. Thus the vomitus, which at first is of the stomach-contents, becomes bile-stained and later yellowish or brownish and stercoraceous. It smells like feces, but it is never feces. With the obstruction high in the bowel, near the stomach, vomiting occurs early, but it is less apt to become stercoraceous than when the constriction is lower because the putrefactive changes have not had time to take place and for the same reason increased indican is less likely to show in the urine. When stercoraceous vomiting occurs it is practically always a sign of complete obstruction and further than this it is never safe to assume that the bowel is not already gangrenous.

In intussusception we have sometimes the picture of an obstruction, and sometimes of a strangulation, depending upon the amount of edema and the tightness of the constriction. On account of the constriction of the blood-vessels and because the lesion is usually in the lower bowel we have blood and mucus in the stools, and usually tenesmus, in addition to the symptoms already given. Tumor is more commonly felt in this form of obstruction than in most of the others—a tumor, which may sometimes be felt as a slender sausage-shaped mass and is palpable in about fifty per cent of the cases. Some writers place it as high as 66 per cent of the cases.

In any of the lesions discussed above, if the symptoms approach those of obstruction and not of strangulation, the intense, continuous, initial pain is wanting or is more or less subdued, and the symptoms of collapse are wanting; the vomiting comes less early, is less constant, and less likely to be stercoraceous.

Under the dynamic obstructions we have, most commonly, obstruction due to paralysis of the bowel. In by far the largest number of these cases the paralysis is due to a peritonitis, either general or local, and if we include the obstructions from kinks and adhesions which arise during the course of an acute localized infection of the peritoneum, usually from an appendicitis, we shall have in an abdominal infection the cause of by far the greatest number of the cases of intestinal obstruction which we see. For this reason when the physician sees a case of obstruction he should put to himself the question, Is infection present, i. e.; is a localized or a general peritonitis present? And this question as a rule should not be difficult to answer. The sensitive abdomen, the small, rapid pulse, the pinched, anxious features, the limited abdominal breathing, the absence of visible coils of intestinal peristalsis—all point toward a peritonitis. Fever, when present, is important, but it is sometimes absent.

I shall give a few cases to illustrate some of the points which are suggested by the paper.

The first case is that of a young man of 28, with no passage of the bowels for seven days. The bowels had been a little inactive for some time but had ceased to move one week before. The first enemas were slightly stained, but that was all. Cathartics brought no result, save an increase in the pain. There was some general pain in the abdomen beginning the first day, and according to the history this had continued as a

general pain with exacerbations up to the day of my visit. The temperature had been so slightly elevated that the visiting physician did not consider it an important factor in the case. Vomiting began a little on the first day, continued three or four times the second, and became somewhat more marked the third and the fourth days, and by the fifth day, next to the obstruction, it was the most marked symptom of the case. It had already begun to have a fecal odor. Meantime tympanites came on, and the abdomen was pretty tight by the fifth day. These conditions continued and increased until the writer was called, on the seventh day.

The patient's face was pinched and anxious; small beads of moisture dampened his forehead; his pulse was small and rapid; he was gulping up, easily, small mouthfuls of yellowish-brown, stercoraceous vomitus. His abdomen was distended, tympanitic, resistant, and moderately tender all over, slightly more so over the right side. The temperature was 99° F. A diagnosis of obstruction of the bowels, possibly due to an appendicitis, was made, and while the grave condition of the patient was recognized, an operation might relieve him, though the chances were against it, but to let him alone meant sure death. So an operation of last resort was done. An acute appendicitis with an adherent knuckle of bowel was found closely attached by recent adhesions and pulled into a sharp kink, which had completely shut off the lumen of the bowel, which was greatly distended and dusky for some eight feet above the obstruction. The patient was too far spent to rally, and he continued to his death in about the same condition as though no operation had been performed.

Another case, a boy of 13, had mild obstructive symptoms lasting one week before the writer saw him. By the third day there had been no movement; there was some distension of the abdomen with a moderate general abdominal pain and an occasional colicky exacerbation. The patient had vomited twice the day before, a bile-stained vomitus; pulse, 100; temperature 99.5°. Cathartics gave no result. On the fourth, fifth, and sixth days the symptoms had slowly increased, and by the seventh day the patient's condition was poor. The bowels were still blocked; abdomen uniformly distended, tympanitic, and tender. The patient vomited occasionally; vomited easily and in small amounts, a thin, brown vomitus. The pulse was

running 120, and the temperature had gone up to 102°.

At this time it was fairly easy to make a diagnosis of an abdominal infection, and the presumption was in favor of an appendicitis. At operation there was found half a pint of thin, foul pus walled off by bowel adhesions and containing a perforated and gangrenous appendix. This case went on to complete recovery with no recurrence of the trouble now for eighteen months.

If no infection is present, and we are not dealing with the rare forms of obstruction due to hysteria, an injured spine, embolism, or thrombosis, or acute hemorrhagic pancreatitis, then we are driven back to a mechanical obstruction or strangulation for a diagnosis. One of the first questions we must ask ourselves is whether it is due to a strangulation, for strangulation leads to gangrene of the bowel in a comparatively few hours. If the strangulation is well marked and continuous, gangrene may occur within twenty-four hours. In a hernia, death with rupture of a gangrenous bowel and with a sac filled with feces has been reported eleven hours after the first symptoms. Usually gangrene does not occur until after the first thirty-six hours. In the following case of my own series gangrene must have occurred within the first twelve hours.

A fleshy woman of 62 was taken with a sudden sharp pain in an old femoral hernia, which had always been reducible. The pain increased and radiated over the lower abdomen. There was considerable depression; nausea and occasional vomiting. The vomitus was bile-tinged by morning and a little later stercoraceous. The patient was operated on fifteen and one-half hours after the onset of the first symptoms. The sac contained some dark-colored serum and a small knuckle of bowel, which slipped away into the abdomen. The bowel was then inspected through a second incision, which was now made above Poupart's ligament, and a dead strip, yellowish-gray, and leathery to the touch, three-eighths of an inch at its widest place, was found circling the bowel. This must have become gangrenous some time before the operation.

In dealing with strangulation of the bowel in a hernial sac there is a grave accident which I wish to illustrate by the following case, and that is the danger of apparent reduction of the strangulation, while in reality the neck of the sac still grasps the bowel. It is a grave accident. It gives one a sense of security. Valuable time is lost, and a fatal result is made more sure.

The patient was a strong, well-developed man of 40, previously perfectly well. The bowels had moved last five days before; nausea developed the second day; occasional vomiting and retching the third, fourth, and fifth days. When seen there was no pain; the face was flushed and anxious; perspiration was standing on his forehead. The abdomen was moderately distended, bulging more in its upper third and for the most part tympanitic. There was tympany in the hypogastrium and right iliac region. A small inguinal hernia presented on the right, which seemed easily reducible, which the patient had had for some time, and which was not tender. There was no noticeable abdominal tenderness. Cathartics and enemas had given no results. The pulse was rather small, somewhat rapid; the temperature, normal.

The writer made a diagnosis of intestinal obstruction from some cause not yet clear and advised operation. The advice was not accepted. The symptoms increased. Two days later the vomitus was stercoraceous. Operation was now demanded as a last resort and was performed by another operator on this same day, the seventh day of the symptoms. The large bowel was empty and collapsed. A knuckle of the small bowel, just enough to close the lumen, was found strangulated, still in its sac at the right internal ring. The patient required repeated stimulation during the operation and vomited constantly. During the act of replacing the bowels, with a copious outpouring of a fluid stercoraceous vomitus, the patient became asphyxiated, drowned in his own vomitus, and expired in spite of resort to artificial respiration.

This case brings up several points of interest. It shows that we can not exclude a strangulated hernia because of a lack of pain and localized tenderness. The hernia was known and was handled. It shows that it may not require great force to produce a reduction en masse with the sac still grasping the bowel. It emphasizes the fact that time is of supreme importance in dealing with intestinal obstruction. Within the same year the writer saw five cases of intestinal obstruction lost because of delay and temporizing after the symptoms clearly indicated the need of operative relief. The following is an example:

A child of four months began to have obstructive symptoms: pain with exacerbations, which for the most part were severe; vomiting set in early, and by the third day was pretty nearly continuous. The abdomen became distended and tympanitic. Peristaltic waves were

easily observed. The obstruction of the bowels was complete, and some shock was present by the second day. On the fourth day the vomitus was yellow and stercoraceous, and still the surgeon was not called until the fifth day, when all the symptoms were aggravated and the condition of shock was extreme. The diagnosis of obstruction was apparent even to the nurse. When it came to the cause, after a strangulated hernia was ruled out, the two most probable causes were intussusception and strangulation from a Meckel's diverticulum. The early and complete nature of the obstruction, and the fact that no mass had been felt, made strangulation from a Meckel's diverticulum the most probable diagnosis. The situation put the writer in an embarrassing position. He was called in to do something for the child, every one expected him to do something, but the length of time the condition had endured and the condition of shock in which the little patient lay seemed to forebode a fatal issue. On account of the expectation of the friends and the wish of the attending physician, and without much hope on the part of the writer, the operation was performed. A strangulation was found from a Meckel's diverticulum, pulled tightly over a loop of dark-purple and greatly distended bowel in the right side of the abdomen. The child left the table in about the same general condition as at the beginning of the operation, but, as was to be expected, it faded away during the next twelve hours.

Intussusception occurs most commonly in infants and by far the most often at the ileocecal valve, but it does occur in adults. The following case, which I saw in the practice of an eastern surgeon, is an illustration.

A man of 38 was taken with a sudden, moderately severe pain in the umbilical region with colicky exacerbations. This pain did not entirely cease at any time after its onset until operation was performed, but it became localized in the right side of the abdomen. Obstruction of the bowels at first was not complete, but soon became so. Moderate symptoms of collapse were present. On the second day a little blood and mucus were brought away by an enema. Examination at this time showed an abdomen moderately swollen and tympanitic except in the right upper portion of the abdomen somewhat nearer the middle line than the colon usually lies, where moderate dullness could be made out and where an oblong, tender resistance could be felt. Visible peristalsis was increased through the central portion of the abdomen. Obstruction of the

bowels, probably from an intussusception, was the diagnosis. At operation sixteen inches of the ileum was found invaginated through the ileocecal valve into the colon, and the pull on its mesentery had drawn the whole mass somewhat nearer to the spinal column, and for the same reason that is where the mass should always be expected, rather deep in and somewhat near the spine, no matter in what part of the bowel the intussusception occurs.

Volvulus of the bowel can rarely be diagnosed. In a majority of cases it is associated with a long mesentery and the bowel is simply twisted about its long axis. Fifty per cent of these cases occur in the sigmoid flexure. An intestinal adhesion in which a limb of bowel, which is above, is pulled down and becomes the lower one and thus makes a half turn on its axis, invites the condition. Hernia is not an uncommon cause of volvulus for the same reason. It may affect the intestine and the small portion of the mesentery in the sac, or it may be in the abdomen and involve a longer portion of the bowel and its mesentery. The writer saw one case in which all the symptoms of a sudden severe obstruction with marked symptoms of strangulation occurred in a large woman who had had a medium-large, irreducible, umbilical hernia for years. Obstruction, pain, vomiting, tympany, and shock were all present and well marked. At operation the great bulk of the hernial mass was omentum tightly adherent, while beneath it was about six inches of perfectly healthy large bowel, and in the center of this was a second loop of about four inches of dark, congested, small intestine twisted at the hernial opening. A most unfortunate mistake may be made when the unsuspected volvulus is deep in the abdomen and the congested bowel is reduced from the hernial sac into the abdomen without further inspection. If the volvulus persists death carries off the victim, usually before the mistake is known.

Acute post-operative obstructions from adhesions and a sharp kink in the bowel, which follow an apparently clean operation, are rare, but every surgeon sees one or two cases during his career. The writer was called into the country to see a case of acute obstruction in a woman who had had an internal shortening of the round ligaments of the uterus some two months before by another surgeon. The symptoms were clearly those of a complete obstruction of thirty-six hours' duration. The country physician had made an early and accurate diagnosis. The appendix had been removed at the previous opera-

tion so that a possible obscure appendicitis with obstruction was not probable, and abdominal adhesions were the most likely cause. A knuckle of bowel adherent near the point where the last stitch had been passed through the round ligament to fasten it near the internal inguinal ring, was found pulled into a sharp kink, which completely obstructed the bowel lumen. The patient made a good recovery.

In connection with obstruction from enteroliths and from gall-stones which have ulcerated through a gall-bladder into the intestine, it is always surprising to find that the stones usually are small enough to pass easily through the bowel lumen. The only rational explanation of the obstruction is that the rough stone irritates the bowel until a persistent bowel-spasm results in the obstruction.

In the foregoing cases we have been dealing with acute obstructions. There is a class of cases in which we have a chronic obstruction with subacute or acute exacerbations, which occurs in patients past 30,—usually well toward 50. The early symptoms are usually some periods of constipation alternating with periods of normal movements or with diarrhea, and with some loss of physical vigor. Later the severity of these attacks increases somewhat, and they are accompanied with more or less abdominal distension, a suspicious symptom. On examination the patient often seems in fairly good general condition, a little under tone perhaps. The abdomen usually will be tympanitic and somewhat distended; a careful examination will often develop a mass in the abdomen, and under favorable conditions this mass will pit on deep pressure showing it to be a mass of feces probably. The first presumption in these cases is obstruction from a cancer in the large bowel. Obstruction from impacted feces must be ruled out, but usually that is not difficult. And the previous history will usually rule out strictures from the scars of healed ulcers, mostly tuberculous or syphilitic. If the cancer is in the rectum, a hard nodular mass or an ulcer with raised, irregular, hard, nodular edges can be made out. If the growth is higher up in the large bowel the few symptoms given above may be all that the patient gives. The symptoms are insidious, and the condition is usually well advanced before an accurate diagnosis is made. Cancer of the rectum is a particularly fatal disease if the condition is at all well established. Cancer of the sigmoid, on the other hand, is more favorable than that of the breast, uterus, or rectum; the actual growth

of the tumor is less rapid, and the results of removal are better. But cancer, wherever it occurs, should be operated on early, and the diagnosis should be made at the earliest possible moment. It is delay that makes the issue so often fatal.

I shall quote but one case from a series of six, as the paper is already long.

A man of 52 had suffered from spells of troublesome constipation off and on for a year, sometimes alternating with diarrhea. Up to this time no loss of weight or strength had been noticed. He had been seen by 1's physician and somewhat relieved by cathartics and other medicinal measures under a diagnosis of chronic intestinal indigestion with chronic constipation. The diarrhea was explained by the irritation of the retained bowel contents. At the end of the year a new physician was called in who found the abdomen a little distended and with an indefinite resistance to the left of the middle line. The history of repeated attacks of obstinate constipation was very suspicious. The results of previous treatment seemed to rule out simple impacted feces. The enlargement of the abdomen and the sense of a yielding mass, as of feces, blocked behind a constriction, in a man past 40, with no history pointing to previous ulcers of the intestine, made the diagnosis of obstruction from

malignant disease practically sure, and his physician advised operation. This was refused, and the diagnosis was repudiated. The patient then called other doctors and received the treatment he wished, that for chronic constipation. During the next six months the patient lost strength and weight and had some very troublesome times with his constipation, taking enemas and cathartics almost constantly. Finally, at the end of another six months, the man was a wreck and again called in the previous diagnostician, who insisted upon an operation as a last resort to relieve the obstruction. When this was done cancer of the lower third of the sigmoid was found, giving almost complete obstruction of the bowels. There were secondary growths in the glands of the mesentery too extensive to offer any hope of complete removal. The patient's condition was so poor that a rapid inguinal colostomy was performed merely to relieve the obstruction. The patient simply faded away during the next ten days.

In conclusion, I wish again to emphasize the fact, which we all have in mind: Whether we are dealing with a mechanical obstruction which is acute or which is chronic, early diagnosis and early interference are imperative, and delay is fatal.

CO-OPERATION BETWEEN THE STATE MEDICAL SOCIETY AND THE BOARDS OF HEALTH THROUGHOUT THE STATE IN MATTERS PERTAINING TO LEGISLATION*

By W. L. BEEBE, A. M., M. D.

ST. CLOUD, MINN.

Your Committee on this program selected me to open this discussion largely by virtue of the fact that I hold the position of Chairman of the Committee on Public Policy and Legislation in our State Medical Association.

My appreciation of the honor is only equalled by my profound realization of the difficulty of properly meeting its requirements, well realizing the limitations of my fitness for the task.

Knowing, however, as we do, the proverbial charity of our profession, and of an audience of this character, and realizing, as we do, that some-

thing more than platitudes and felicitations is requisite to furnish food for your present digestion, we hasten to say that we hold out as an inducement for your attention one merit, at least, namely, that of brevity.

That there *should be perfect co-operation* between the State Association and the State Board of Health, and all other boards of health, goes without the saying, but how best to bring about this happy state of affairs; how, in the most satisfactory and practical manner, we can accomplish this great desideratum, is the question now to be considered.

Dr. Frederick R. Green, Secretary of the Com-

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mittee on Medical Legislation of the American Medical Association, says on this subject:

"In the first place, the State Society ought to see to it that its influence is used just as strongly as possible to secure the appointment of competent and efficient men on the State Board of Health and on local boards of health. The State Society should also see to it that sufficient appropriations are made for the use of the Board. This can be secured in practically no other way than by public education on health matters, since the average legislator and citizen considers that appropriation for health purposes is money thrown away. If the State Society and its component county branches can keep before the public the wastefulness of sickness and of a high death-rate, and the economy of good health, and can show that money appropriated for health purposes is one of the best investments that can be made of public funds, it will go far toward securing for the State Board the support that it needs.

"For this work we ought to have a regular educational bureau or publicity department for each State Society which would have branches in every county, and would be in close touch with the newspapers of all the larger towns and cities. Through this medium material supplied by the State Board of Health could readily be placed before the people, and information along these lines disseminated.

"So far as actual legislation is concerned, there should be the fullest understanding between the State Board of Health and the State Society.

"A definitive legislative program ought to be mapped out by the officers and legislative Committee of both these organizations in conference. It ought to be definitely agreed upon just what will be undertaken each year, and what is the *relative* importance of different matters, as it is often the case that only one or two of a certain number of bills before the legislature can be passed. The question of the selection of the bills is naturally very important and the State Board and the State Society should have a thorough and mutual understanding of the situation.

"The program having been laid out, and a definite policy for the legislative campaign having been determined upon, the State Society, through its officers, committees, and component county societies, should use every legitimate means in its power to arouse public interest, enlighten members of the legislature, and secure the passage of the desired bills.

"Resolutions adopted by a county society will influence a member of the legislature from that county, but even more influential, because more personal, are letters from constituents and political supporters, and particularly from the family physicians of the legislator.

"Lay out a program, determining one or two matters of importance; ascertain the name of the family physician of the legislator in each case, and have him present the matter, being sure that he understands it thoroughly.

"The question will then come before a member of the legislature from a member of the profession in whom he has personal confidence, and his views on the subject will, naturally, be very strongly influenced thereby."

Dr. Green further says:

"I am convinced of the uselessness of any efforts along the line of sanitary or public health legislation unless preceded by a vigorous campaign of public education, for, even if the passage of the law is secured, its administration is greatly hampered, or is comparatively nullified by the lack of public understanding and support of the law.

"It is of great importance that physicians fully understand the matters at issue before attempting to do campaign work for them."

As an illustration of arguments presented to legislators that can easily be controverted by the opponents of the measure, Dr. Green cites the one against the passage of the sectarian medical-practice acts on the ground that the peculiar tenets of the sect are scientific absurdities, entirely overlooking the fact that the average legislator is not capable of appreciating scientific distinctions, that the adherents of *any* cult, however absurd, can always produce some kind of evidence for it, and that the State has no more right to take cognizance of sects in medicine than it has of sects in religion.

"The arguments against sectarian boards should be that it is contrary to public policy to have *two* standards for admission to the right to practice medicine, and that, as the State has established *one* standard, it has no right to admit individuals to the same rights and privileges who are only required to comply with standards of a lower grade.

"Material for use in opposing the adoption of undesirable bills or in advocating the passage of desirable legislation should be very carefully prepared by some thoroughly competent person before it is presented to the legislature.

"There should be co-operation between the

State Society and the State Board of Health in the appointment of legislative committees. The members of the American Legislative Council, as well as all members of the Auxiliary Legislative Committee, should be men who will interest themselves in public health legislation. The Secretary of the State Board can often help select these men, as he knows who is interested in public health questions. He should work in harmony with the Chairman of the State Legislative Committee and the Secretary of the State Society, and they should all know who these committee men are."

In short, then, our State Board of Health, through its President and Secretary, and our State Medical Society, through its President and Secretary, and Committee on Legislation, making a joint committee of seven, should unite in general supervision of matters of legislation.

If any one should become possessed of the impression that it is an easy matter to do any or all of these things, he would make a great and most unfortunate mistake. If he should get the impression that present legislative conditions are satisfactory, and that our organization is complete, or anywhere near complete, he would be still farther in error. Each advance requires the united, patient, and thoughtful labors of the men engaged in the work, and none know so well as do these men that the work is still in its infancy—that we are just getting in a position to meet the responsibilities and reap the benefits of real organization for both the profession and the people; for, after all, this whole subject really covers the whole of the relations of the profession to the people.

If the so-called "Chinese method" of dealing with the physician should be adopted in this country, namely, pay the doctor while he keeps the patient in good health, and kill the doctor when the patient dies; then more attention to sanitary matters would be paid by the profession. Preventive medicine would then take its proper position.

Of course, we all realize that it is with the greatest difficulty that you can convince the average American citizen, not to mention the State legislator or member of a City Council, that there are certain duties devolving upon us as a profession which will cause us to enter upon the work of a missionary without the expectation of fee or reward, to explain to the masses how they can avoid certain diseases rather than to encourage by our silence their contracting preventable diseases, and treat them for the money in it.

This is beyond their powers of comprehension. I had this personally impressed upon me very forcibly a few years ago, when, as local health officer, I was trying to induce our City Council to introduce a sewerage system, citing the epidemic of typhoid fever we were having. One of the leading politicians said: "Well, what for do *you* want to stop typhoid fever? It makes you more business."

The average city councilman or state legislator is, in fact, not only the most unable to comprehend how any physician should be engaged in a work which will diminish his yearly income, but he is apparently the most persistent and energetic in his efforts to defeat the work of a conscientious health officer. They think, and assert, that as they have existed for many years under these unsanitary conditions it is a useless expenditure of money to try and correct them. A medical man trying to explain to them that a large death-rate is a great loss in money to them and to the State, is really up against a very difficult proposition.

It is difficult to convince the average wise man from Germany, or Scandinavia, or Poland, whom we have selected from the herd to make our laws, that the desire of the medical profession, in matters of legislation, is other than to fence in those already in the profession, and to keep out all others. They cannot appreciate the idea of protection to the masses from ignorant and criminal quackery.

Along this line of thought I would like to quote a few lines of Major Owens of the U. S. Army. He asks:

"What power does a board of health have in comparison with that which it should have? Why should not a board of health guarding the public health have the same power to control and enforce its mandates as a court of law guarding public morals? Why should a member of this board receive less pay than the member of the law court? Surely, men's lives are nearly as valuable as their morals. Either a board of health is competent to decide when anything is a menace to the public health, in which case it should have authority to enforce its mandates, or it is incompetent. In the latter case it should be reformed with competent men. Has not the day come when the medical man should demand the rights and respect to which the possession of special knowledge should entitle him? Why should the business man control the hospital for him? Why should the court of law be needed to force the mandate of the board of health? Who con-

trols when the danger of death is to be faced from some epidemic disease,—cholera, yellow fever, smallpox, etc.? Do the officers of the law then put in appearance? No, no! They have urgent business over in the next county. The courts of law watch for the infractions of the moral law, such as theft, etc., to protect the public from injury and to enable each to obtain his moral rights. Why should there not be a court of public health, whose business should be to administer justice and to give to each his rights to pure air, pure food, pure water; to protect each from incompetent medical men? Law is said to be that which has been enacted for the greatest good of the greatest number. Under this head, then, should come, certainly, the board of health, and take its place as one of the courts of the land, and be called not the board of health, but the "Court of Public Health," before which should be tried all infractions of the sanitary law, with power to enforce its orders; to inflict punishment; to investigate complaints of unsanitary conditions, made by its own officers, appointed for the purpose of looking into infractions of this law, just as the ordinary police look after the violators of the ordinary law. This court to pass upon the qualifications of medical men to practice medicine within their jurisdiction just as the ordinary court passes upon the attorney of law to practice before them. The lawyer disbars the lawyer for incompetency or ras-

cality. Why may not the medical man disbar the medical man for the same reasons? Are men's rights to pure air, food and water, and protection from diseased contact of less value than their pocket-books or their morals? There certainly should be a branch of the judiciary whose sole function should be connected with the control of public health matters, and the enforcing of all laws bearing thereon; to prevent one man from so acting that his actions should result in injury to the health of his neighbors, and under whose jurisdiction all boards of health, coroners, and all others whose duties bear on public health, should act, and thus form a part of the machinery of the "Court of Public Health."

To bring about any such state of affairs demands *work*. Each and every one of us has his appropriate work. However humble that work may be, each of us has his position, and he who performs that work, and occupies that position, and he alone fairly meets the obligation which our profession imposes upon him. The true talisman is work. Labor is the magic key which unlocks all the hidden treasures in medicine, and which creates that happy feeling which comes to those who have faithfully performed a duty.

The profession of medicine is a working profession. Its idle members have nothing to offer, and nothing to promise themselves or us, but to the working, zealous physician no calling in life can offer more.

DIFFERENTIAL DIAGNOSIS OF DISEASES CAUSING GASTRIC DISTURBANCES*

By CHRISTOPHER GRAHAM, M. D.

ROCHESTER, MINNESOTA

Peptic ulcers furnish the typical dyspeptic syndrome. Duodenal and pyloric ulcers give a train of symptoms that is peculiarly characteristic, almost pathognomonic. Histories of patients at the surgical clinics show (1) that most of them have suffered more or less for years, (2) that during the years alternating periods of attack and perfect or partial health are clearly defined. The attacks come more often in the spring and fall, especially early, but they may be irregular, coming and going quite without known cause. During an attack pain, distress, burning, vomiting, gas, and pyrosis—one or all may be

present and always at a time peculiarly regular for the patient. Two to four hours after meals the patient feels the return of symptoms, which at their height may quite prostrate him. He has a hungry, burning, sour-feeling in stomach; pain, distress, gas, and sour vomiting may be present. Food taken gives ease. Anything that engages the acid, and neutralizes it or removes it brings comfort. Early hearty meals give most relief. What quiets pain quiets all symptoms. This regular return of symptoms two to four hours after food, and their control by food, drink, alkalis, vomiting, etc., meal after meal, day by day, during the attack, is peculiar to peptic ulcer only. When complications have arisen the symp-

*Read at the 41st annual meeting of the Minnesota State Medical Association, held at Winona, Oct. 14 and 15, 1909.

toms may be continuous, and so changed that they may be common to many diseases. To get at the diagnosis properly at this late stage the early history is necessary.

Cancer.—In developing histories from those suffering from gastric cancer, we have found them to fall into three classes: first, those in which the disease seemed to appear suddenly during the enjoyment of perfect health; second, those in whom an attack or attacks in earlier years are definitely stated, and who, for years, have been well until sudden grave symptoms (as in Class 1) threaten; and, third, those who for years had typical attacks of chronic gastric ulcer. In the first and second classes we may find tumor, advanced lesions, and symptoms of previous chronicity suddenly and very acutely developed. We may find those cases whose only complaint is a diffident weak feeling, and who are chiefly concerned because an epigastric tumor has been discovered. Others complain of languor, weakness, loss of appetite, and emaciation; and on physical examination nothing is revealed. The test-meal is of value here. We feel sure that, however great the difficulties here met with in reaching a diagnosis, they are less than in Class 3, where ulcer has been apparent for years. Some patients are weak, emaciated, and cachectic when ulcer is the only lesion. A palpable tumor and vomiting of delayed food, poorly macerated with coffee-ground appearance, may be present, and ulcer still be the lesion; but tumors of the stomach are usually cancer (95 per cent). When cancer has once fastened itself upon the stomach, the course is short and steadily downward, and remissions are seldom experienced. Pain in cancer is quite a constant symptom, though less often noted than in ulcer. It is less acute, more continuous, a dull, strange depressing ache, and usually immediately intensified by ingested material. It is epigastric, and tender areas are not common. In cancer so-called "pyrosis" may increase in time and amount, but loses its acidity. Regurgitation, day or night, is also increased in amount and likewise loses its acidity. Vomiting is often more delayed, more copious, oftener blood-mixed, and gives a peculiar and great relief, though rarely so complete as in ulcer. Vomiting and nausea are more often excited by liquid food; gas and bloating become more chronic and distressing; appetite is lessened and finally lost, or a disgust for food is felt. Emaciation comes on rapidly; pallor, anemia, and weakness hasten; loss of power is marked; desire for activity is wanting; and a great languor is felt.

Food, instead of giving relief, is quite apt to produce immediate pain which may be acute, but oftener is dull, sickening, almost indescribable, or a strange distress, not related to food, is common and continuous. With all this there is a mental depression as though a consciousness of impending evil. This mental attitude is the great factor that gives to the face the expression that so often marks the patient who suffers from malignant disease. No symptom or symptoms seem sufficient by which to diagnose cancer of the stomach: the facies, the general appearance, the mental attitude, the physical condition, the direct gastric symptoms—all form a composite picture, a glance at which may make the diagnosis.

Gall-stones.—In gall-bladder disturbance there are, first, those cases of mild disturbance, usually gastric and often lightly considered by the patient and even more lightly by the physician. These are light attacks of distress, gas, upward pressure, coming often soon after food or at irregular times, often of sudden onset, short duration, eased by belching or perhaps slight vomiting, regurgitation, or slipping away almost unnoticed and without treatment, though many and various measures may get credit for natural return to health. These sudden, irregular, mild "dyspeptic" attacks are quite as typical of gall-bladder disturbance as are the severe typical attacks which, as a rule, supplant the mild. Second, there is another set of cases with more or less prolonged, dull (mild or quite severe) pain in the epigastric area, right arch, or whole liver-area. This pain may be increased by food, exertion, or motion; deep respiration gives pain, and when entirely located posteriorly the trouble may be called pleurisy. These patients pass through prolonged steady attacks, then ease may alternate with distress, and comparative or excellent health be enjoyed for a time. During an attack dyspeptic symptoms are prone to be present, and but for this irregularity, as compared to ulcer, one might often consider gastric lesions. Third—In this class is to be found the great number upon whom the correct diagnosis falls, and in this class surgery finds its greatest activity and rewards its adherents by giving great relief and lengthened days. Here we have the so-called typical gall-stone attack—sudden severe epigastric pain, with radiation to the right arch (at times to the left), and through to the back or the scapular region, spasm of the diaphragm, upward pressure, gas, nausea, vomiting, and after a longer or shorter terrific spell comes

sudden cessation of symptoms, and, until complications have obtained, almost immediate return to perfect health. A sudden onset and sudden cessation without apparent cause or any treatment, are quite peculiar to gall-stone disease when no complications are present. These attacks come irregularly, night or day, and often bear no relation to food, though often called acute indigestion, gastralgia, neuralgia of stomach, and other equally erroneous names. The fourth condition is that of chronic gall-bladder trouble,—adhesions, duct-obstruction, perforation, contractions, duct-infections with pancreatitis. Often in this class chronic gastric disturbances predominate, and the picture is so closely related to chronic ulcer with complications that a differential diagnosis cannot be clearly made if only present symptoms are considered. At this stage the key to diagnosis depends on the development of the early history.

Chronic recurring appendicitis is the type that usually gives stomach symptoms. There is no appendiceal tenderness, no pain at McBurney's point, no fever, no tumor, no symptoms that usually mark appendicitis, except those referred to the stomach. There may be pain, gas, vomiting, sour stomach, and pyrosis, but when compared with peptic ulcer they are irregular, and when gall-stones are considered the attack is too prolonged. The whole train of symptoms is caused more often immediately by food, but this meal gives one effect and the next meal another. There is no regularity, meal after meal, as in chronic ulcer, and rarely does food give ease. Pain is often a queer, rather continuous distress, which is epigastric or indefinitely abdominal, which the patient describes as epigastric. There is no clean-cut day by day repetition, as in ulcer, and no attacks like gall-stones of definite location of pain. Nausea, distress, a gassy, bloated condition covers the bad feeling of more cases of chronic appendicitis than of chronic ulcer or gall-stones. Exertion is a factor in appendicitis, and sufferers from it are seemingly often unable to work. Pain may be epigastric only, but often indefinitely of the epigastric and abdominal regions or low gall-bladder or high appendix areas. If we have dyspeptic attacks with epigastric pain and radiation to the umbilicus or lower abdomen, consider, first, appendiceal disturbance.

Syphilis, when it attacks the stomach or liver, may clearly simulate ulcer of the stomach or gall-stones, and when quite advanced, the pain, cachexia, and vomiting may lead to a strong

suspicion of cancer of the stomach. The vomiting of crisis may mislead; however, the attacks are peculiarly sudden, the vomiting is irregular, often soon follows introduction of food to the stomach, but appears if total abstinence is practiced. Perhaps little pain, (nausea) not so often sour stomach, no hunger-pain, no food relief, or other characteristic of peptic ulcer is present. There is usually not so much emaciation, because attacks are not, as a rule, so prolonged. The attacks cease as abruptly as they begin, and no signs of trouble remain. No regularity of ulcer; no picture of gall-stones. A history of specific infection, shooting pains of a general character, and other specific signs will cause the physician to hesitate. Specific treatment often clears up the diagnosis.

Many patients with pulmonary tuberculosis will present themselves with a diagnosis of stomach trouble, not a few of them fearing ulcer or cancer. Anorexia, food-pain, vomiting, emaciation, and cachexia are present, and hydrochloric acid absent. An examination reveals irregular fever, cough, bacilli, lung complications, or other tuberculosis foci; and the clinician should not remain long in doubt concerning the correct diagnosis. Tuberculosis of the intestines (colon) often gives dyspeptic symptoms and careful examination often leaves one unable to definitely say whether appendicitis, gall-stones, or purely stomach disturbance is present.

Bright's disease will often confuse the physician. Loss of appetite, emaciation, anemia, vomiting, and stomach analysis will closely follow the ulcer or cancer type of stomach trouble. Repeated examinations of the urine may be necessary. A history of increased frequency, together with the condition of the heart and blood-vessels, will usually clear up the diagnosis.

Pernicious anemia is often most difficult to differentiate from ulcer and cancer. Unless the blood-findings are positive one is often at a loss in deciding. There may be lack of appetite in both. Dyspeptic symptoms, but not the dislike of food, come with anemia. We do not usually find the pain and vomiting of cancer. In cancer and anemia there may be pain, shortness of breath, and palpitation on exertion, which conditions are more marked in anemia than in cancer. Rest gives perfect physical ease in anemia, while in cancer the stomach distress and general weakness do not yield completely to quiet. There is less emaciation in anemia; the skin is more apt to be a lemon color than colorless; there is an oilier "feel" present; and a

slight general edema is usually found. Stomach analysis in pernicious anemia is misleading, and if seriously considered, many mistaken diagnoses may be credited to it. The absence of hydrochloric acid and the presence of blood are quite frequent conditions in both. The examination of the blood is invaluable. In anemia the hemoglobin is low, the red count low, and the color-index high. In cancer the hemoglobin test is frequently high, due to dehydration of the blood; and the color-index is not abnormal. Staining the blood, with the discovery of the distinctive cells of anemia, will usually establish the diagnosis. The facial expression is of value. In anemia there is general paleness and icteric tinge—not the excessive paleness about the eyes and nose. There are a slight puffiness of the tissues and a more hopeful expression; emaciation is less marked, and the wrinkled condition, which in cancer adds so much to the picture of cachexia, is wanting.

DISCUSSION

DR. W. D. SHELDEN (Minneapolis): "I have nothing further to offer regarding the diagnosis of the conditions that have been considered by the essayist. I am much interested in the study of the digestive capacity of these cases of functional insufficiency, due to whatever cause.

I have been able to determine by a study of the diets that many of these patients are suffering from overeating or from disturbance due to a badly proportioned diet. An estimation of the caloric value of the average daily diet gives us at once the means of determining

whether it is excessive or not, as well as a guide to the relief of the subjective symptoms. The degree of relief obtained by this means depends upon the cause of the functional insufficiency. The digestive symptoms due to gall-stones or appendicitis are relieved only by surgical means, but even then the functional results may be disappointing if the diet greatly exceeds the caloric requirements of the patient.

DR. R. C. DUGAN (Eyota): As usual, we learn something when Dr. Graham reads a paper. The enormous amount of material at his disposal places him in a peculiarly fortunate position as regards the making of a diagnosis, since in a large number of these cases it is more difficult to make a diagnosis than in almost any other case.

The only thing to which I care to call special attention is to the frequency with which we find carcinoma of the stomach among the young. A few years ago we did not consider that there was any occasion to bring up the question of carcinoma in any one less than fifty or sixty years of age, but it is a fact that within the last few years surgical records have shown a large number of patients considerably under fifty years. I saw a case quite recently in a man of forty-one, with a large carcinoma of the stomach.

If operation is made for carcinoma of the stomach and pylorus it must be done very early. There is not, to my knowledge, any method by which we can reach the lymphatics above the bowels so surely as that which was demonstrated by Dr. Mayo around the cecum, so that if we get a carcinoma around the pylorus we must take it early enough. If there is any question about the possibility of its being a carcinoma I cannot too strongly emphasize the point that an examination be made early, and the age of the patient should not be taken too much into consideration in making a differentiation.

THE TYPHOID SITUATION IN MINNEAPOLIS

By H. M. BRACKEN, M. D.

Executive Officer of the State Board of Health

MINNEAPOLIS

Minneapolis is getting some free advertising now on the typhoid fever question. The only wonder is that the disgraceful condition of that city, so far as relates to this disease, has not been given general publicity long before this. It may be said that there is a possibility that, in the near future, Minneapolis will have a better water supply, for the last legislature made provision for the issuing of one million dollars in bonds to secure a safe water supply for that city.

Now as to facts: The water system in Minneapolis is owned by the city. It has not given a safe water supply during the past twenty-five years at least. Had this system been in the hands of private parties, Minneapolis would have compelled a safe water supply long ago. Had

typhoid fever resulting from the drinking of polluted water furnished by a private corporation prevailed for years as it has under municipal ownership in Minneapolis, the private corporation would have had a busy time defending itself in the courts.

The Minneapolis Tribune of March 14th tries to combat the statements made in the Chicago Tribune of March 13th, relative to typhoid fever in Minneapolis, and in doing so makes many misrepresentations. It tries to charge the publicity of this matter to the State Board of Health, which had nothing whatever to do with the Chicago article. No one connected with the State Board of Health was interviewed by the Chicago reporter, and he undoubtedly secured

his data entirely from residents of Minneapolis.

The State Board of Health did feel that the situation in Minneapolis was alarming and said Board did not appreciate the apparent complacency of the city, for the typhoid fever infection of Minneapolis was being spread far and wide. The State Board of Health, therefore, thought it wise to call a conference of those interested in the water problems in Minneapolis. This conference was held at the Commercial Club rooms, Minneapolis, on the evening of March 11th. The reason for its call is given in the following letter:

March 9, 1910.

Dr. P. M. Hall,
Commissioner of Health,
Minneapolis, Minn.

My Dear Doctor: As you know, the Executive Committee of the State Board of Health requested that the typhoid situation in Minneapolis should be looked into because of its bearing on outside districts or territory. Dr. Hill has already seen you in connection with this matter.

Last night, at the meeting of the Executive Committee of this Board, it was advised that a conference should be called as soon as possible at some convenient place in Minneapolis, at which the members of the Executive Committee of this Board, the technical workers, yourself, and others, representing the city Board of Health, and certain prominent citizens should be present. It was thought that we should have represented at this conference in addition to yourself: Dr. Corbett; the City Engineer; the Committee on Health and Hospitals; the Water Committee of the Council; Mr. Joseph Chapman, representing the Pure Water Commission; and Mr. W. L. Harris, representing the Publicity Club. Invitations have been sent to these various parties to meet at the Commercial Club, Minneapolis, 6 p. m. Friday, March eleventh. (Dutch treat).

I hope that this meets with your approval. You understand that we do not wish to interfere in any way with your prerogative in the city, but an epidemic of typhoid fever in Minneapolis is more than a city problem.

We wish to express our appreciation for the courtesies you extended to Dr. Hill in connection with the present condition.

Very truly,

(Signed) H. M. Bracken,
Executive Officer.

The propositions submitted by the State Board of Health were as follows:

1. An order to physicians in Minneapolis to report all cases of typhoid fever under their care since January 1, 1910, with date of onset.

2. A notification to all physicians and hospitals in Minneapolis that hereafter they must report all cases of typhoid fever (and tuberculosis) as required by the ordinance, or be held

responsible for failure to report in the courts.

3. Provision made for extra office help for the Health Commissioner of Minneapolis during the present typhoid fever condition.

4. Extra medical inspectors to assist the Health Commissioner in securing all data and in giving advice and instruction relative to typhoid fever. (Number of special doctors and extra nurses to be discussed tonight. Extra help should be of best quality, that is, competent physicians and nurses.)

5. Extra visiting nurses to visit places among the poor, especially, and give advice relative to the proper care of typhoid fever patients, to avoid

(a) Infection of others outside of the household.

(b) Contact cases.

6. Make provision to use Associated Charities nurses to some extent.

7. A weekly report to the State Board of Health of all information secured through the local department, that is, list of cases, record of visits of the medical inspectors and visiting nurses, etc.

8. Funds for this extra work should be provided and the Commercial Club can aid in securing same.

9. The present epidemic of typhoid fever in Minneapolis should be handled as was the epidemic in Mankato.

Practically nothing was accomplished at the conference. The Health Commissioner of Minneapolis impugned the motives of the State Board of Health in calling the conference, and stated most emphatically that everything was being done that was necessary in Minneapolis; that he did not need extra help or more funds. He stated that the epidemic was practically over and disputed the very conservative estimate of Dr. Hill as to the number of cases in the city.

Dr. Hill's estimate was to the effect that there probably had been from 800 to 1,200 cases in the city. Dr. Hall stated that there had been 500 cases only, with 54 deaths to date (March 11, 1910).

If Dr. Hall's statement as to cases and deaths is correct, then conditions in Minneapolis are really more alarming than we had supposed. It has generally been conceded that typhoid fever did not have a high death-rate in Minnesota and the Northwest. Whenever we have been able to study an epidemic carefully this general impression has been borne out. It has generally been conceded that a four per cent death-rate

from typhoid fever is probably a high enough estimate. If this is true, taking four per cent as the basis for Minneapolis at the present time, the number of cases would have been 1,354, plus the cases still existing at the time that the fifty-fourth patient died. On this basis, Minneapolis should have had at least 1,500 cases of typhoid fever up to the time of the death of the fifty-fourth patient. The chances are that the death-rate in the present epidemic was not 4 per cent, and, if this is true, the number of cases for the above period would have reached to 2,000 or more.

It is hard to conceive why Dr. Hall should wish to establish a high death-rate for Minneapolis from typhoid fever, for in so doing he simply makes the situation more serious and

more alarming. If a disease has a low mortality then we may feel fairly secure, even though the number of cases is large, but if the disease has a high mortality then, of course, the cause for alarm is greater.

Osler states: "The mortality (from typhoid fever) is very variable, ranging in private practice from 5 per cent to 12 per cent, and in hospital practice from 7 per cent to 20 per cent. In some large epidemics the death-rate has been very low. * * * Of 685 cases to January 1, 1898, in my ward, 8 per cent died."

A general epidemic death-rate in Minneapolis should be much lower than the death-rate of hospital cases in Baltimore.

MALFORMATION OF THE RECTUM: REPORT OF A CASE

By CHARLES D. HARRINGTON, M. D.

MINNEAPOLIS

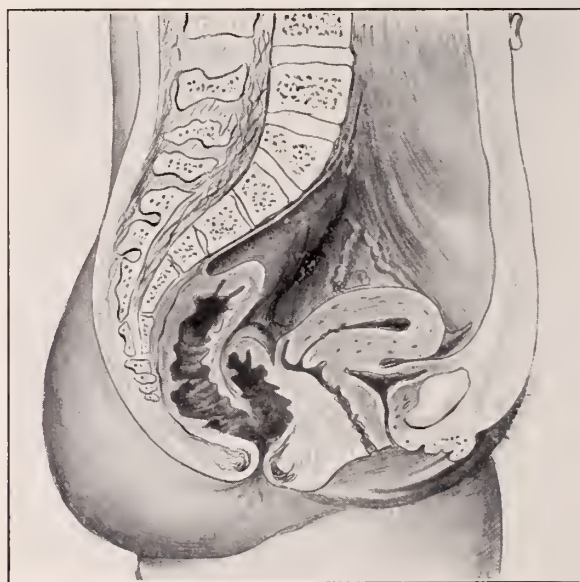
Congenital malformations of the rectum occur about once in ten thousand births as near as we can tell by recorded cases. The ratio would no doubt be higher than this if we could get a correct record. A great many malformations seen by physicians have not been reported, as they did not think them of sufficient interest to report.

A point I wish to bring out in the case I am about to report is the time before the malformation was discovered, and I have no doubt there are others going through life who never know that they have a malformation.

In May, 1908, the patient came to me suffering from hemorrhoids. Age, 40; female; unmarried. Family history, unimportant. Past history: When a child she remembers distinctly of having a severe time in getting the bowels to move; finally a large hard mass was expelled. No doubt this was an impaction in the lower bowel. Patient has always suffered from constipation, and lately has had a great deal of discomfort from hemorrhoids. I advised the removal of the hemorrhoids.

She came for operation May 25, 1908. A thorough examination of the lower bowel was made with a pneumatic proctoscope. When the rectum was fully distended with air a diverticulum on the anterior side of the rectum could be plainly seen, about three inches in diameter and four inches long, as shown in the accom-

panying cut. The sigmoid, instead of being curved, continued from the rectum in a straight line into the abdominal cavity. As the patient had not been advised of this condition nothing



was done further than to remove the hemorrhoids.

I find it advisable where patients give a history of chronic constipation to make a thorough examination of the rectum and sigmoid with a good proctoscope, notwithstanding the fact that a good many surgeons state that the only rectal

examination necessary is a digital one. I had already made a digital examination of this patient, and had I not investigated further by using the proctoscope the cause of the constipation would have been hidden.

The treatment of these cases is necessarily surgical, and the surgeon must rely upon his judgment and ingenuity in making the repair.

CORRESPONDENCE

LODGE EXAMINATIONS: THE FEE QUESTION

Tracy, Minn., March 10, 1910.

TO THE EDITOR:

The Lyon-Lincoln County Medical Society sometime ago adopted a minimum fee of five dollars for old line examinations and of three dollars for fraternal lodge examinations. These fees have been strictly adhered to by the Tracy contingent of the society. How well they have been adhered to by the brethren belonging in other towns I do not know, but have heard nothing definite to the contrary.

And now to the gist of this matter: Lately the local A. O. U. W. lodge, which is a strong one, had a deputy here to work up new members. He, in company with the Grand Master Workman, came up to see the writer with the purpose of getting a reduction of fee for examinations. They told us that this is the only town in the state where such a high fee (God save the mark!) is paid; that in other places the fee is from one to two dollars; and in some cases where a great number of examinations are made in a bunch some physician is so loyal to the order (of the A. O. U. W., I must add) that he will do the work for fifty cents. Besides this general statement, they mentioned the names of physicians in St. Paul, Minneapolis, Mankato, Winona, etc.—names of men high in the councils of the mighty and wise in the profession,—who do these examinations at from one to two dollars. A little later a M. W. A. deputy came to hustle members for that order. He likewise came forward and corroborated the above evidence. He and the others played upon our heartstrings with the plea that we ought to do these examinations at a cheap rate because these fraternal orders take in men who cannot afford to pay such an exorbitant (?) fee as three dollars for examination; that it shut out men who might otherwise get insurance to protect their loved ones.

How some of the physicians these deputies mentioned as doing examinations so cheaply, could find the time to do them at all, when they charge from five to ten dollars for an ordinary physical examination or office consultation, is beyond our comprehension. "Well," the deputy replies, "they have to do it for that, or some other fellow will get the work." Forsooth! If some other poor devil needed it so much as that, these eminent men commit an offense to go into competition with them. Competition! Why, men, that word, from a money standpoint, should be absolutely obsolete in the medical profession. The only competition we should have is that of brains and skill, and of that, the more the better.

The question of adequate recompense for services rendered by the rank and file of the medical fraternity is becoming one of serious moment, and it behooves every man to stop and think when he contemplates doing something cheaper than the next man, in order to get the job. He may be benefited a trifle in pocketbook sense temporarily—yes, very temporarily—because it is going to react on him, as well as the profession at large, and add materially to the general demoralization.

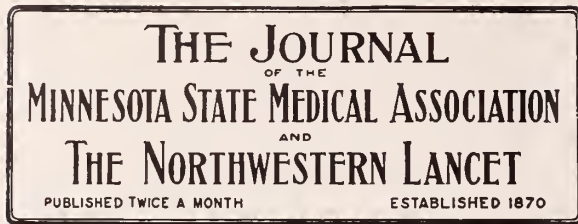
Coming back to the lodge deputy: He is usually a good fellow, but generally he is a man of only meager educational attainments. The principal requisite is for him to have the "gift of gab." But what does the lodge allow him for each application he secures? The munificent sum of five dollars! And then they think the medical profession is robbing them if more than a maximum of two dollars is asked for an examination of an applicant. A work which requires that the man who does it must have spent years and much money in attaining the requisite knowledge—a work on which depends the very stability of any order writing life insurance, is ranked with the work of a man of not even fair educational attainments.

The very honesty, dignity, and respectability of the profession rests on the foundation of adequate remuneration for services rendered, and we must take a firm and decided stand on that question.

Respectfully,

A. D. HOIDALE, M. D.

Note.—"A good fellow" with "a gift of gab," who makes free with his charges against physicians, may be a plain liar.—EDITOR.



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APRIL 1, 1910

HYPOCHLORITE OF LIME AND PURE WATER

The city of Minneapolis has finally decided upon a method to furnish better water for the use of its citizens. The hypochlorite of lime apparatus for removing organic particles from water is exceedingly simple, inexpensive, safe, and rapid in producing water free from bacteria. The result, after two weeks' experimentation, showed a freedom from colon bacilli that was as unexpected as it was remarkable.

Hypochlorite of lime or, as it is commonly known, chloride of lime, is a bleaching powder. When dissolved in water it becomes a powerful oxidizing agent. Hypochlorous acid is set free and, in the presence of organic matter, gives up oxygen in nascent form with an energy that makes it comparable to ozone, so far as its intensity is concerned. The bacteria most easily destroyed are those of typhoid fever, cholera, the colon bacillus, etc. Usually a solution from $\frac{1}{4}$ to 1 per cent has been sufficient, but solutions of from 4 to 5 per cent may be used without fear of harm.

The hypochlorite solution is kept in large tanks, and after it has been prepared and kept for 24 hours it is injected into the incoming stream in the intake-pipe. From here it is pumped into a reservoir and distributed over the city. It has been found that the bacillus of typhoid disappears in 36 hours, or less.

If it is necessary to remove abnormal colors or coagulation in water, a certain percentage of sulphate of aluminum is added to the lime solution, and this reduces the effectiveness of the lime salt, but not to a marked degree, not more than 10 per cent.

The apparatus and the proper treatment of water demand the attention of a trained analyst, but even then the matter of supplying and purifying water by this process is comparatively inexpensive. The estimate ranges from \$25.00 to \$60.00 per day, according to the amount of water used.

The advantages of this process are, first, speedy destruction of typhoid and colon bacilli, as well as other pathogenic bacteria of intestinal origin; second, non-poisonous effects upon higher organisms; third, reliability in its effects; fourth, the greater permissible rate of filtration, and of less clogging; fifth, prevention of possibility of pathogenic bacteria increasing within and passing through the filters.

The process was studied in Hamburg and recently practically perfected in this country. The addition of the hypochlorite can be applied to the dilution of sewage as well as to the purification of water.

The installation of the apparatus in Minneapolis has been under the direction of Professor F. H. Bass, of the University, and Dr. T. Frank Corbett, city bacteriologist.

Since the hypochlorite method of purification the expert employed by the city of Minneapolis, and following his recommendations, it has been decided to use Mississippi river water rather than water from distant lakes. Hering advised the installation of a mechanical filter in conjunction with the hypochlorite treatment. This means a pure clean water free from contamination.

Since the hypochlorite method of purification the epidemic of typhoid, which so alarmed the people, has practically subsided, and Minneapolis is now a safe town to visit and live in; and when the mechanical filter is completed the water supply will continue safe in spite of the discharge into the river of sewage in towns along its banks. It would be an easy matter, however, to

prohibit the disposal of sewage from such towns as Brainerd and other fever-producing spots.

The time is coming when deaths from preventable diseases will be looked upon as criminal, and some day an individual will rise in his wrath over the death of a member of his family and will sue the city as an injured man sues a corporation. It is questionable whether it can be conclusively proven that typhoid originates entirely from the water supply, but a test case would settle the question.

WHY NOT ANSWER LETTERS OF INQUIRY?

The Minnesota State Board of Health, through its epidemiologist, sent out 1,800 letters supplied with return envelopes and schedules in regard to the recent epidemic of poliomyelitis. Replies have come in from 800 physicians. This number is altogether too small, and the importance of the whole matter justifies a much larger return from the medical profession in this state. Five out of every nine paid no attention at all to the request, and it seems as if the men might have the courtesy, at least, to acknowledge the receipt of the letter and state that the physician could not afford the time to report these cases or that he had no cases to report.

Some of the letters from physicians were very appreciative, expressing their pleasure in knowing that the State Board of Health was making this investigation for the benefit of the whole profession and the public. Hence, the inquiry here made editorially: Why not answer letters of inquiry, particularly when they are sent out for a definite scientific purpose, and their results may be expected to benefit a large portion of the community?

A RESEARCH FELLOWSHIP

The announcement from the Minnesota Academy of Medicine, published in our news columns, is one that should be carefully investigated, and its information be spread among physicians and students. This is the first society in Minnesota to offer a research fellowship, and its latitude is so wide that each man may practically choose his own subject.

There are other fellowships in the University, but this is the first to come to the medical department, and it is to be hoped that it may meet with a prompt response from some student in medicine or surgery, who can avail himself of all the appurtenances of a well-directed and well-ordered laboratory.

This announcement should not be passed over lightly, because it means much to research medicine in Minnesota. The work may be taken up by men in advanced medicine, if they so choose, or men who have a liking for medicine, and wish to review their laboratory methods. Perhaps some of our readers will remember an almost forgotten desire to acquaint themselves with some particular line of study. Here is the opportunity and the equipment.

REPORTS WANTED

A circular letter has been sent by the State Board of Health to all the physicians in Minneapolis, asking for reports of all cases of typhoid fever seen by them between December 1, 1909, and March 21, 1910.

The purpose of this is to determine the mortality-rate from this disease during the time referred to. The prevailing impression among physicians in Minnesota is that the death-rate in the Northwest from typhoid fever is low. This is borne out by the data of certain epidemics that the State Board of Health has had opportunity to study.

In Breckenridge during the winter of 1907 and 1908, with about 700 cases, the death-rate was less than 1 per cent. The Mankato epidemic, during the summer of 1908, gave a death-rate of about 7 per cent. Brainerd has had an epidemic during the winter of 1909 and 1910, represented by 68 cases and 6 deaths, a death-rate of about 9 per cent, if all cases were reported.

Dr. P. M. Hall, Commissioner of Health, Minneapolis, reported March 11, 1910, a probable 500 cases during the epidemic, in the city, of 1909 and 1910 to date, with 54 deaths, making the death-rate of 10.8 per cent. At a public meeting where he made this report he stated that in previous epidemics in Minneapolis the death-rate had been as high or even higher than 15 per cent.

This death-rate for Minneapolis seems highly improbable when the mortality-rate for the rest of the state is taken into consideration. It would rather point to incomplete reports of cases. Of course, if only a small proportion of the cases are reported, the death-rate will naturally appear high.

Osler gives the death-rate for typhoid fever in private practice as ranging from 5 per cent to 12 per cent; in hospital practice from 7 per cent to 20 per cent. For 685 of his own hospital cases prior to January 1, 1898, the death-rate was 8 per cent.

It is hoped that the physicians of Minneapolis will quite generally respond to the request of the State Board of Health, for the present opportunity is a good one to determine the death-rate from this disease in this city.

REPORTS OF SOCIETIES

HENNEPIN COUNTY SOCIETY

The Society held a stated monthly meeting on March 7th, Dr. C. A. Donaldson, the president, being in the chair and 54 members present.

Drs. H. E. Robertson and Samuel B. Pond were elected members, and Dr. J. F. Plehn was received by transfer.

Dr. Charles A. L. Reed, of Cincinnati, accepted the invitation of the Society to deliver an address at the annual meeting and banquet of the Society on April 11th. He will speak upon "Race Culture and National Efficiency."

Dr. J. C. Litzenberg resigned as a member of the Milk Commission, and Dr. J. P. Sedgwick was appointed in his place.

Dr. John H. Morse reported a case of tumor of the eye, and exhibited the patient.

Dr. D. O. Thomas reported that the Special Study Committee had completed the first part of the course, dealing with the spinal column and brain. The Committee recommended a change of hour for the work, and hereafter the meeting hour will be 12:30, and lunch will be served.

Dr. O. R. Bryant moved that a collector be appointed to look after the bills of all members. The motion was referred to the Executive Committee for action.

Dr. F. S. Bissell read a paper on "The Metabolism and Treatment of Diabetes," and the paper was discussed by Drs. W. D. Sheldon, S. P. Rees, H. A. Cohen and Dr. Bissell, in closing.

Dr. A. W. Abbott read a paper on "An Aid to the Proper Repair of Recent Laceration of the Perineum," and the same was discussed by Drs. J. C. Litzenberg, F. L. Adair, A. E. Benjamin, C. H. Hunter, and by Dr. Abbott in closing.

Dr. Leo M. Crafts was appointed as the representative of the Society on the general city committee in charge of scientific meetings to be held in Minneapolis next winter.

F. A. KNIGHTS, M. D., Secretary pro tem.

STEARNS-BENTON COUNTY MEDICAL SOCIETY

The Society met at Sauk Centre on Feb. 21

with twelve members present. The following is the program: "General Sanitation—Introductory Remarks," by Dr. W. L. Beebe, St. Cloud; "Special Points in Sanitation," by Dr. J. A. DuBois, Sauk Centre; "City Sanitation," by Dr. C. F. Brigham, St. Cloud; "Tuberculosis," by Dr. H. L. Lamb, Sauk Centre; "Ventilation," by Prof. A. N. Farmer, St. Cloud; "Medical Inspection—Eye, Ear, Nose and Throat," by Dr. A. F. Moynihan, Sauk Centre; "Sewerage and Water Supply," by Dr. J. C. Boehm, St. Cloud. A thorough discussion by both the physicians present and the public followed the reading of the papers.

The meeting of March 16th was also a public one, when the following was the program: "General Sanitation: the Relation of the Public to the Medical Profession," by Supt. F. L. Randall, St. Cloud; "Adenoids," by Dr. C. B. Lewis, St. Cloud; "The Relation of the Press to the Medical Profession," by A. M. Welles, Sauk Centre; "Cancer," by Dr. M. J. Kern, St. Cloud; "Ventilation," by Supt. A. N. Farmer, St. Cloud; "Sewers and Water Supplies," by Dr. J. C. Boehm, St. Cloud. No discussion followed.

J. C. BOEHM, M. D., Secretary.

WASHINGTON COUNTY SOCIETY

The Society met at Stillwater on March 8th. The meeting was public, and a number of laymen as well as physicians were present. "The Manufacture of Antitoxins and Vaccines" was the subject of a lecture by Mr. E. G. Bassett, of Minneapolis. This was illustrated by a number of stereopticon views.

"Rabies in Animals" was the title of a paper read by C. A. Mack, M. D. V., of Stillwater.

Dr. W. R. Humphrey, of Stillwater, read a paper on the subject of "Rabies in Man."

F. G. LANDEE, M. D., Secretary.

NEWS ITEMS

Dr. J. T. Smallwood has located at Worthington.

Dr. Frank M. Archibald, of Mahanomen, will locate in Oregon.

Dr. B. H. Haynes, of St. James, is doing post-graduate work in Chicago.

Dr. M. A. Burns, of Milan, is discussing plans for a hospital at that place.

Dr. John G. McNamara, of North St. Paul, died last month, at the age of 55.

Dr. W. M. Beck has moved from New Dayton, Alberta, to Hanley Falls, where he formerly practiced.

Miss Flora M. Thompson, of Minneapolis, has become superintendent of nurses at the Red Wing City Hospital.

Dr. A. C. Dogge has located at Polson, Mont.

Dr. A. Henderson has moved from Cloquet to Vancouver, B. C.

The third open meeting of the Stearns-Benton Society was largely attended by laymen, and the series has been a pronounced success.

The army post at Ft. Snelling will experiment with anti-typhoid fever inoculation, only volunteers, however, being experimented upon.

The German Baptists of North and South Dakota will establish a chain of hospitals in those two states. The first one will probably be located at Emery, S. D.

The trustees of the McKennan Hospital fund, the gift of Mrs. Helen G. McKennan, at Sioux Falls, S. D., expect to build a hospital in that city this year, to cost not less than \$50,000.

The annual banquet of the Hennepin County Medical Society will be held April 11th at Donaldson's Tea-rooms. Dr. Charles A. L. Reed, of Cincinnati, Ohio, will give an address on "Race Culture and National Efficiency."

Dr. J. E. Moore, who went to Hot Springs, Va., after his accident in Millard Hall, has completely recovered and has resumed work. Dr. Moore speaks highly of Hot Springs as a place for quiet out-of-door life, that is, if one goes there in the winter. After April 1st the noisy people come on deck.

Dr. William S. Wood, of Blooming Prairie, died on March 11th at his father's home in Faribault at the age of 36. Dr. Wood was a graduate of McGill, class of '96, and was a member of the American Medical Association, the State Association and other societies. He had recently done eye, ear, nose and throat work in London and Vienna, and was an assistant in the Politzer and Fuchs clinics at Vienna. He was mayor of Blooming Prairie twice.

ANNOUNCEMENT

The Minnesota Academy of Medicine offers annually a Research Fellowship, the terms of which are that the recipient, a graduate in medicine, shall devote his time to some particular line of research in one of the departments of the College of Medicine and Surgery of the University of Minnesota, and that the result of the research

shall be read before the Academy and published under its auspices, with due credit to the College and the department involved.

The line of work to be followed is to be determined by the Committee on Research Fellowship of the Academy of Medicine, and a number of subjects have already been proposed.

A fund which will provide about \$300 per annum is available, and applicants, or others interested, are invited to correspond with the Committee.

It is desired that the appointment be made at an early date.

S. MARK WHITE, B. S., M. D., Chairman, Minneapolis. ALEX R. COLVIN, M. D., St. Paul.

J. CLARK STEWART, M. D., Minneapolis, Minn.

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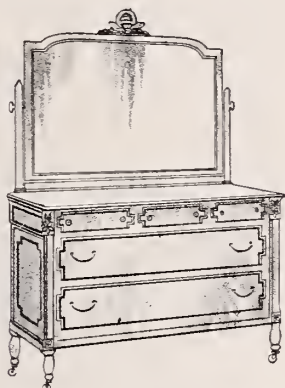
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They desire to call special attention to the announcement in our advertising columns, that a new and improved model of the Winthrop surgical and gynecological table is now offered for sale by them. The price of the table is remarkably low, but the simplicity of the table makes this price possible, while it gives the profession just the table it needs. The statement by this well known firm that the table is high class and meets the needs of the surgeon and the medical man, is sufficient guarantee that the purchaser will find in the table all the merits and much of the style of the higher priced article.

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A gasoline gauge is well-nigh indispensable on an automobile, and the high-grade Hans gauge can be had this year for \$10 or \$12. It is really worth while. It tells you at a glance just how much gasoline there is in the tank, and it saves so much anxiety and annoyance that no one should be without it. See the company's announcement on another page.

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An unventilated tent is even worse than an unventilated room, for it gathers dampness and bad odors faster than does a close room. Some people do not realize this, but it is true. Tent life will not give the health and comfort that are expected of it unless the tent is built on right lines, and, fortunately, it costs but little to build a tent properly. The rub comes in knowing how.

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THE MORA AUTO

The two Mora cars which the Columbus Buggy Co., of Minneapolis handle, meet the wants of physicians as do few other cars. They are "strenuously reliable," that is, they stand up under strenuous use, and maintain their reputation at all times. The prices, \$1,050 and \$2,500, are right, and the physician who wants to buy a car at either figure should examine these cars thoroughly.

VULCANIZED FIBER LIMBS

The F. Buchstein Company, of Minneapolis, desire to call attention to their artificial limbs made of vulcanized fiber, which, they claim, is the lightest material ever used for artificial limbs, while it has the strength almost of sheet steel. Every extra ounce of

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weight in an artificial limb is felt by the wearer, and the material that will give the required strength with the greatest lightness is the best by all means. Surgeons should investigate this material, which has the guarantee of a well known company behind it.

A VICTORY FOR DECENCY

When a manufacturer puts an article upon the market and its merit gives it a large sale, imitators are sure to appear, and it is most difficult to punish them, however mean their course.

The Denver Chemical Manufacturing Company has secured a verdict against one such imposter, and "Denver Mud" can no longer be sold as an imitation of or substitute for Antiphlogistine. The district court of Kansas has issued a permanent injunction against the Colorado Chemical Company, and heavy damages will have to be paid by this company for its disregard of honorable business methods.

SYMPTOMATIC OR COMPLICATING ANEMIA

This is the form or condition of blood poverty which results from various constitutional infections and diatheses. Prominent among such causes are, syphilis, rheumatism, paludal poisoning, tuberculosis, carcinoma, etc. In many instances, such an anemia is due to some obscure, latent metabolic perversion, or a slow but persistent intestinal auto-intoxication of gastro-intestinal origin. While it is an axiomatic principle that successful therapy depends upon the removal of the causative factor, it is more than often wise and eminently judicious to adopt direct hematinic treatment while the underlying cause is being sought for and combated. Pepto-Mangan (Gude) being bland, non-irritant, and readily tolerable, can almost always be given, with distinct advantage to appetite, digestion, nutrition, and general well-being, while causative therapy is under way. Neither constipation nor digestive disturbance results from its steady use, and a general hematic gain is practically a certainty, if its use is persisted in.

DR. CHAS. C. HASKELL GOES TO THE LILLY LABORATORIES

The scientific department of Eli Lilly & Co. recently engaged the services of Dr. Charles C. Haskell, who will give his time to experimental therapeutics and pharmacology.

Dr. Haskell is a native of Columbia, S. C. In 1905 he graduated from the University of Virginia with the degree A. B. Following the completion of his academic work, he entered the medical department of the university remaining one session, and afterwards matriculated in the Harvard Medical School, from which institution he received his M. D. degree in June, 1908.

Since graduation Dr. Haskell served as interne one year in the Long Island Hospital, Boston; as physician to the Floating Hospital of St. John's Guild, N. Y., and as interne in the Willard Parker Hospital (for scarlet fever and diphtheria) of the New York Health Department, from which institution he came to the Lilly Laboratories.

Much work has been done in physiological testing and assaying by the Lilly Laboratories under the direc-

tion of Mr. C. R. Eckler, formerly of the University of Michigan. The addition of Dr. Haskell to the department of pharmacology will enable the work to extend into experimental therapeutics much farther than heretofore.

ARTICULAR RHEUMATISM

Writing in the *Medizinische Klinik* of October 31, 1909, Dr. Michael Spitzer, assistant to Dr. Singer at the first medical ward of the Imperial Hospital, Rudolfstiftung, in Vienna, says:

Fully convinced that articular rheumatism, in the majority of cases, constitutes a pyemic process, Dr. Singer has for more than ten years used Collargolum and Unguentum Credé in the treatment of this disease. Unguentum Credé may be applied locally to the affected parts, or used percutaneously over a larger area, like mercuric ointment. Collargol is best used in form of enemata, $7\frac{1}{2}$ up to 75 grains in 3 to 6 ounces of distilled water being given. In a great number of cases where the smaller joints were affected, excellent results have been obtained, although at times the remedy failed to produce improvement. Various other therapeutic agents are used at the hospital in the treatment of articular rheumatism, but in obstinate cases Dr. Singer, both in his private practice and at the hospital, always falls back upon argentum colloidal, giving preference to the Credé preparations.

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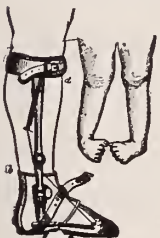
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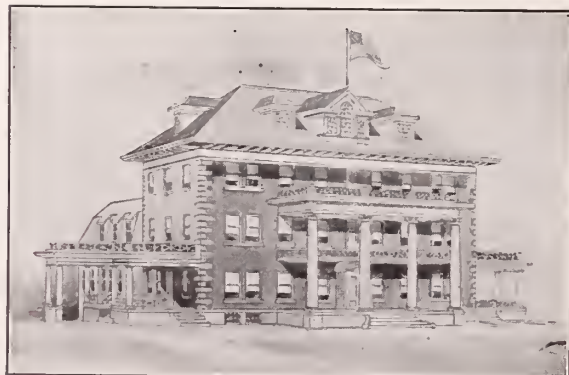
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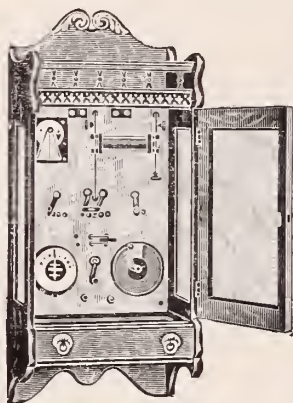
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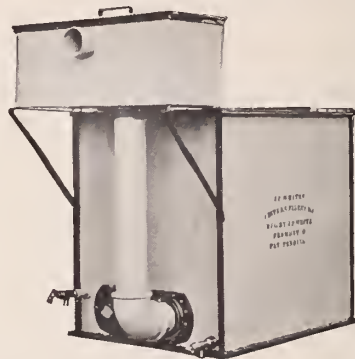
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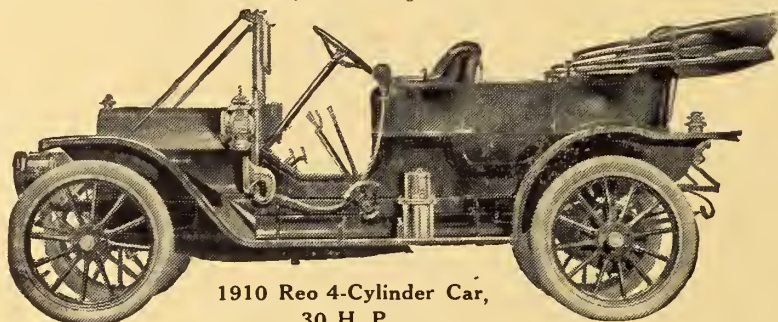
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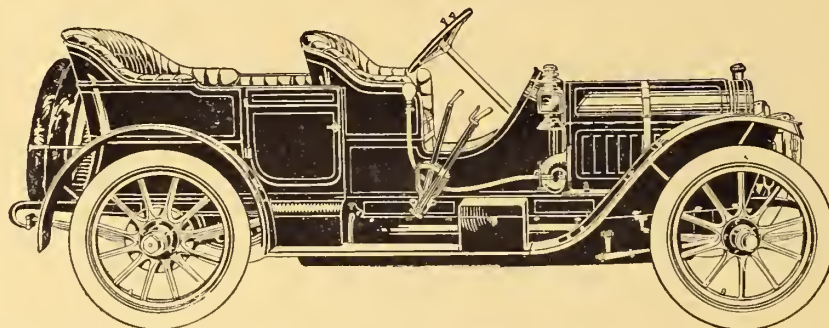
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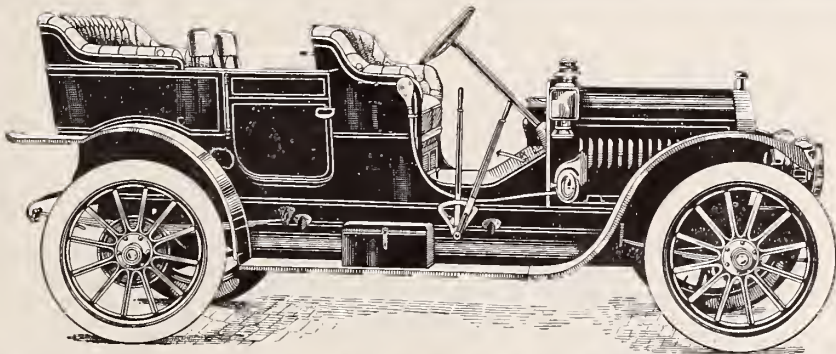
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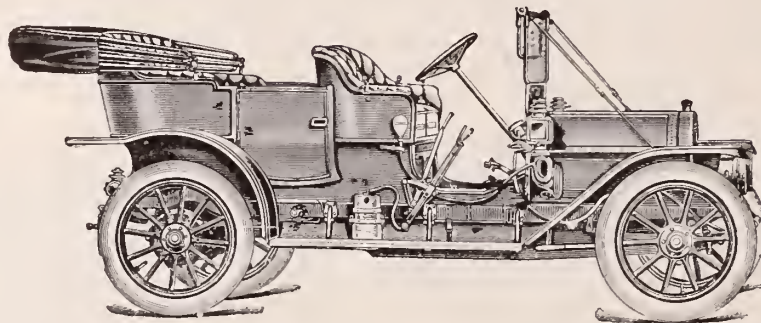
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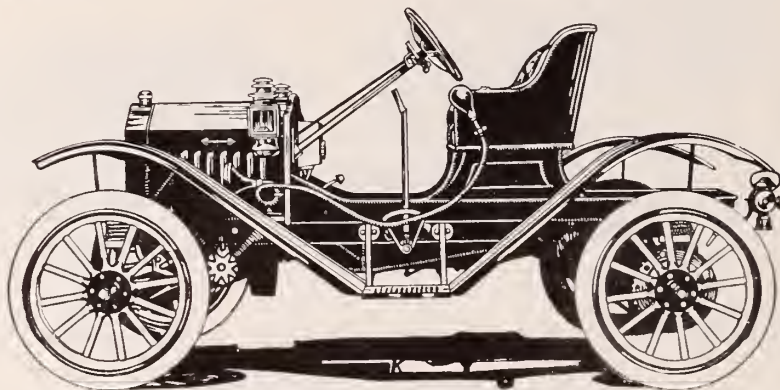
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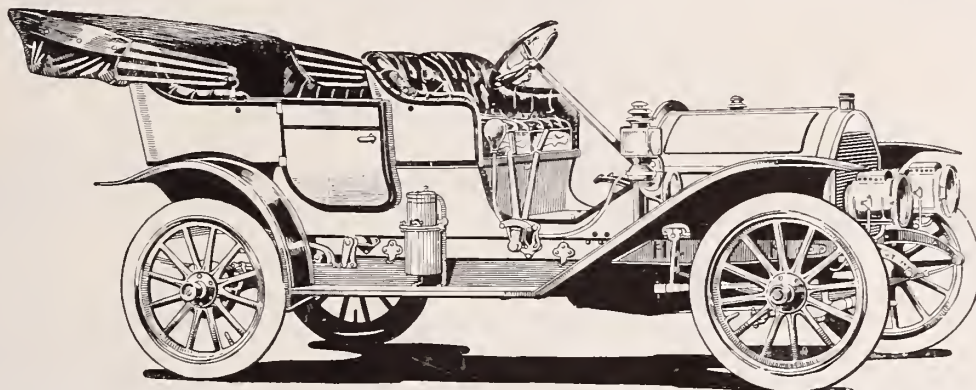
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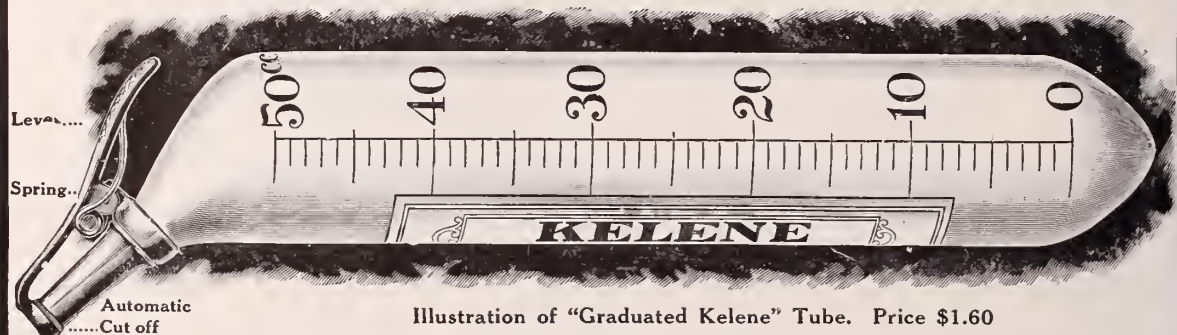


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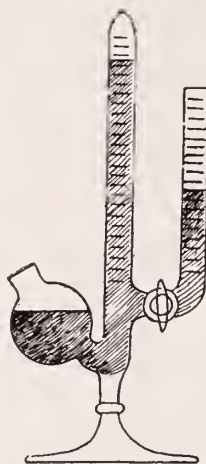
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SYMPOSIUM ON TYPHOID FEVER, A MEDICAL AND ECONOMIC PROBLEM, AS ILLUSTRATED BY THE CLASSICAL MANKATO EPIDEMIC OF 1908*

THE HISTORY OF THE LOCAL ADMINISTRATIVE HEALTH WORK

BY A. O. BJELLAND, M. D.

MANKATO, MINN.

Mankato, a beautiful city of 12,000 in the Minnesota valley, lies nestling on a hillside, lying south and east of the Minnesota river. The main portion of the town is seven blocks wide and twenty long.

The source of the water supply is four deep artesian wells, two being of six-inch bore, and 650 feet deep. From these wells, which are situated on Washington street, a pumping-station at the foot of Washington street, on the river, pumps the water into a reservoir, which is located about twelve to fourteen blocks on top of a high hill at the end of Main street. From here the water is distributed to the city through about eighteen miles of water mains.

The main outlet of the sewer also runs down Washington street and empties into the river, at the pumping-house station, running within ten feet of one of the deep artesian wells and about six or seven feet from the other.

Ordinarily Mankato is a healthy city, and very few typhoid cases have existed in Mankato since the water-works have been built. Five years ago there was some twelve cases, but these were traced to a surface well belonging to the Franklin school, which was entirely outside of the wa-

ter mains. Since that time there have been a few cases that were brought into Mankato from the outside. In February, 1908, there was one case in Duke's Addition, so we might say that in Mankato typhoid fever is an exceedingly rare disease.

Mankato is quite a transient point. On May 1, 1908, on the opening of the street-car line a large number of strangers visited our city, and from that time on there were a great many strangers in Mankato. On June 25th Hagenbeck's circus brought a large crowd to the city, and among these there probably were a number of typhoid-carriers who used our closets and sewers.

There was an unusually large rain-fall in and about Mankato, beginning May 20th and lasting until June 24th. This caused a tremendous flood, the highest point of which was reached June 25th and 26th, the highest water we have had since May, 1881. Our sewers had not been cleaned for thirteen years, and the drainage capacity was reduced at least one-third. Added to this, the gate that controlled the outlet of the main trunk sewer, on Washington street, was left down, and a backing up of the sewage occurred, flooding cellars all along Front street, Second street, and even to Third street. A backing up into the manhole coming out over the Third street sewer occurred about the same time. The manhole was somewhere about twenty feet in depth. Examinations showed that sewage had come clear to the top of the manhole and that the deposit smelled of fecal matter. Another backing up of the sewers occurred opposite the Chase Building

*Read at the 41st annual meeting of the Minnesota State Medical Association, held at Winona, Oct. 14 and 15, 1909.

on Front street on August 24th, again starting to flood the cellars, showing positively that there had been a previous backing up of the sewers through an obstruction.

Above Fifth street there are no sewers, but out-door closets and earth-holes are used. The unusual amount of flood and storm water filled these closets, and being on a hill-side, overflowed and ran down Fifth and Sixth streets, on Washington, flooding Third street from curb to curb, covering the Third street well-pit. This well-pit contained a connected-up well-pipe which was rusted full of holes, besides leaking badly up the sides of the pipe, hence there are two theories of how sewage was sucked into the water mains.

When the gate in the main trunk-sewer was left down (about June 24th), sewage got into the open well-pit at the pumping-station and was then sucked into the water mains, and the water system was polluted with sewage.

On June 26th, a number of diarrhea cases occurred in my practice and also in the practice of the other physicians of the city of Mankato. Possibly two thousand cases of diarrhea occurred between June 27th and July 4th. The Board of Public Works was notified that the water in the mains was dirty and roily, and told that there must be something wrong with the water-works system. The health officer was told that there could not possibly be anything wrong with the water system, that it was pure and beyond suspicion, and that it was a mechanical impossibility for the sewage to back up, as he suggested.

Dr. Bracken was telephoned notice of the above conditions, and was advised to be ready to come down at once to help make an investigation. It was the hardest possible work to convince some of our officials that our water works system was contaminated, and that anything could possibly be wrong. The mayor, Dr. Andrews, was notified of our suspicion on June 27, 1908. In an interview with the daily papers we warned all people to boil the city water in order to be on the safe side, and these notices were continued as long as necessary. On June 27th the health officer started an investigation of the Third street well. All that could be seen in the well was some roily water and possibly a few straws, but the flooded condition on the surface was everywhere in evidence, and from this it was reasonable to infer that the contamination could come from the surface, at least from sewage running down Fifth and Sixth streets by way of Washington street into the Third street well-pit.

On June 28th (Sunday) there was a meeting of Mayor Andrews and the city officials in which matters were discussed, and the health officer informed these gentlemen at that time that we were in for an epidemic of typhoid or intestinal trouble. On June 28th Dr. Bracken, secretary of the State Board of Health, was telephoned to, and he arrived in Mankato on June 29th to make an investigation and to make a bacteriological analysis of the water. Dr. Bracken, Dr. Hill, the health officer, and the engineer made a complete and thorough investigation of the well-pits and reservoirs. The Minnesota State Board of Health decided from the circumstantial evidences at this time, with the clinical evidences of intestinal disease, that the city water was contaminated and that we were to have an epidemic of diarrhea, and predicted a possible typhoid fever epidemic. The health officer then ordered the Third street well shut off, the reservoir cleaned, and that the reservoir and water mains be flushed until ordered to stop. The only thing that could be done at this time to safeguard the health of the people was to give notices for every one to boil the water and keep boiling it until further notice.

It was evident that after the poison had been introduced into the water since June 20th and was in the mains, nothing else could be done at that time except to boil the water. It took until July 12th to get the result of the bacteriological examination showing us positively that there was sewage contamination in the water mains. No one knew, or could know, that the water was contaminated until we had received the result of this bacteriological test, which showed positively that the water in the mains was polluted with colon bacilli.

On July 11, 1908, Dr. H—— received a Widal test from a patient, Mrs. B., showing positively that the disease we had to contend with was typhoid. Dr. Bjelland received a Widal test on July 12th, showing positively that our epidemic was typhoid fever and nothing else. The trouble that we were having was also positively shown, from clinical evidences and otherwise, to be typhoid fever and nothing but typhoid fever. As is always the case in an epidemic, there were some people, and some physicians, who tried to belittle the epidemic, and called these cases typhomalaria, mud-fever, and everything else to evade the truth and the true issue. From this time cases were rapidly reported, clinically, as typhoid fever, and over 100 Widal tests were received which showed positive reaction.

The first step taken by the health officer, on June 27, 1908, was to notify the people of Mankato to boil the city water and milk. This notice continued until September 4, 1908, when notices to all water consumers was sent by postal card, warning them to boil their water until pronounced by an expert fit to use.

The second step taken was to organize an emergency hospital, and the sisters of the Sorrowful Mother, who maintain St. Joseph's Hospital, were appealed to and ten or twelve sisters were sent for at once. The German Catholic school building, through the kindness of Father Heggerman, was placed at our disposal, and a thirty-five-bed hospital with ten or twelve nurses was organized in three days and ready for patients. A rate of \$1.00 per day was established. The city of Mankato furnished this hospital at a cost of some \$800.00, and it was an untold blessing to our city. The Catholic Sisters took care of 129 typhoid patients, and the Immanuel Hospital took care of 58.

On June 29th steps were taken and a street-cleaning department was organized under the superintendency of Mr. Wigley, one of my inspectors. A clean-up notice was published in both daily papers and the German paper.

This department poured petroleum on the stagnant pools, and chloride of lime in the sewers and in every closet in town. They removed piles of rubbish and manure and all manner of dirt. The garbage-gatherer did good work by carrying away the garbage each day, and our town was systematically cleaned and disinfected.

The Minnesota State Board of Health placard of typhoid fever was run several times in both daily papers and in the German paper, also an article on how typhoid fever could be contracted, as arranged by Dr. Hill of the Minnesota State Board of Health. These notices were run until about August 15, 1908. We were enabled through the local papers to give the utmost publicity to the true state of affairs, and to warn and instruct the people of Mankato how to handle and take care of themselves and how to avoid contracting typhoid fever. If it had not been for this systematic policy of publicity on our part we could not have succeeded in holding down the epidemic as well as we did. This aroused furious opposition among the business people, who almost went into hysterics because they were afraid we had hurt the town. The commercial and mercenary spirit must always be contended with by any health officer who tries to stamp out an epidemic of any contagious or infectious disease.

These same people could not see that by adopting this policy of publicity we were saving them thousands of dollars in the end, whereas a policy of concealment would have worked them untold harm, which it would have taken them one or two years to recover from.

I would recommend that a short, sharp policy of publicity be inaugurated at the beginning of every epidemic. After we had done our work we compromised with the Commercial Club and with the business men by substituting circulars prepared by the health officer and approved by the Minnesota State Board of Health, embodying all notices and instructions that had been in the daily papers and distributing them to every house in the city of Mankato.

In order to systematize the work of caring for the epidemic an office force was organized, separate rooms were rented, and a temporary health office was arranged. On July 22d a stenographer was installed, maps of the water mains and sewer system were obtained from the city engineer, and a filing system was put in use. On July 24th the health officer secured the assistance of a student, Mr. Piper, and as soon as the report of a case was sent in the stenographer copied this report into the filing system. Mr. Piper went to the house and wrote up the case and instructed them in sanitary precautions, and then the visiting nurse was afterward sent to the case. Mr. Piper also assisted the health officer in a daily systematic inspection of the areas from which the cases were reported.

On August 5th Miss Jessie Clarke, a nurse of wide and long experience in typhoid, whose home was in New Zealand, was engaged as visiting nurse. Miss Grace Robinson, of Boston, was also engaged as visiting nurse. The duties of these nurses, as soon as the report of a typhoid fever case came in, was to go to the house and instruct the patient and his friends how to avoid infection by contact, to thoroughly teach the family in the use of antiseptics and asepsis, to relieve fatigued nurses by the hour, to go in and give the patient a bath and make him comfortable, and by an object lesson in nursing, teach the family how to care for the patient, as well as how to avoid contracting the disease. In this way we were enabled to prevent contact cases in large families of children and amongst the poorer classes in our city. These nurses made a nearly house-to-house canvass, teaching, talking, and distributing the circulars which we issued and circulars of the State Board of Health, spreading the gospel of cleanliness and careful-

ness, and did a great work for us in general. These nurses were nurses of fifteen and seventeen years' experience. They were faithful and efficient and contributed, in a large degree, to our success in holding down the secondary cases to the number of 41 cases.

Having, in July, 1907, secured the passage of a milk ordinance, we were able at once to instruct all milk dealers and all families selling milk to be careful, and we were able to keep the typhoid infection from the milk. A patient, T. W., was a milker in one of the dairies, and as soon as he became sick he was taken care of, the dairyman's milk was watched, the dairyman himself instructed on this point by Dr. Hill and Mr. Manley, inspector from the State Food and Dairy Commission, and in this way we were able to keep infection out of the milk. One of the greatest weapons in the hands of a health officer in any town, village, or city is a milk ordinance, making it necessary that every milk producer report promptly any contagious or infectious disease existing in his family.

A little later Dr. Alley was sent to our office by the Minnesota State Board of Health to assist us in the work of covering these cases. Dr. Hill, assistant director of the State Board of Health Laboratories, spent a good deal of time with us and assisted us greatly by his consultation and work, as an epidemiologist, in taking care of our typhoid fever epidemic.

In our office a map of the city was platted with blue pins for the primary cases, pink pins for the secondaries, and black-headed pins for our deaths, and it is interesting to note that this map shows that the primary cases came from the city water mains and that they were from water infection.

Letters were sent by the health officer to every drug-store, saloon, restaurant, hotel, boarding-house, grocery store, candy-seller, milk-dealer, ice-cream and soda-water dispenser, butcher, fish dealer, ice-dealer, cook, waitresses, and all sellers of water, warning them of the responsibility of all food-purveyors—that they were responsible as good citizens to see that they themselves and those under them should serve only food free from typhoid and to handle the food only with perfectly clean hands.

Frequent consultations with Dr. Bracken, Prof. Bass, consulting engineer of the State Board of Health, and Dr. Hill, the epidemiologist, together with the thorough inspection of the wells, sewers, and water-plant, gave us a thorough working knowledge of the situation and the needs thereof. The health officer was able, by

working day and night and being constantly within reach and touch of the situation, to institute all the proceedings and keep a watchful eye on the dangerous section of the town, and from June 26 to November 20, 1909, the end of the epidemic, he was constantly in touch with the situation.

From the beginning the health officer recommended to the City Council that they should employ a practical sanitary engineer to come here and investigate the condition of the sewers and the water-works plant, so that we could intelligently remedy the defects in our wells and well-pits and put them on a safe and sanitary basis. About August 15th Mr. Wilson, an engineer, was engaged by the Mayor, Dr. J. W. Andrews, to act in this capacity. He has been constantly at work and on September 8th devised and drew up plans for the repairing and safe-guarding of our water system.

Our hardest and most difficult task in this epidemic has been to get the physicians to report all of their cases and to watch for the light or ambulatory cases. These must needs be the greatest source of danger in the spreading of typhoid, because they are unknown and unwatched, and nothing can be done to make them safe.

We had 427 cases reported into this office from July 7 to November 20, 1908. 324 primary, 39 secondaries or contact cases; 64 uncertain, 30 deaths, 7.4 fatality rate.

The results of the Mankato epidemic have at least partially opened the eyes of its citizens to the rotten, loose, and irresponsible way the municipality has been run in the past, and efforts at reform have been instituted. Mankato's experience awakened other towns to the fact that pure water must be had if they would be free from typhoid.

But for all its experience the health department remains the same, and I suppose its citizens expect in the future that some poor doctor holding the office will sacrifice his time and health if another epidemic should occur.

RESULTS OF THE HEALTH OFFICER'S RECOMMENDATION

Sanitary engineer employed.

Repair of wells.

New suction mains installed.

Two new electric pumps to handle sewage in case of floods.

Thorough overhauling and cleaning of sewers.

Pumping station overhauled.

Plans drawn for storm sewers.

Adequate sanitary sewers planned.

A monthly systematic flushing of water mains.

Above all, a severe lesson to the people that constant vigilance must be exercised in matter of sanitation.

(For discussion see page 138.)

A NOTABLE TYPHOID EPIDEMIC AT MANKATO, MINNESOTA

By F. H. BASS

Engineer Minnesota State Board of Health

MINNEAPOLIS

Until the summer of 1908 the city of Mankato had for twenty years been practically free from typhoid fever. On June 27, 1908, there suddenly swept over this city, like a threatening cloud, a sudden and general epidemic of diarrhea, 6,000 or more of the 12,000 inhabitants being affected. The threat of this cloud was realized, for, with an explosion of destructive violence, an epidemic of typhoid followed three weeks later. Within the next few months the Health Commissioner of the city recorded over 400 cases and 30 deaths within the city. Outside of the city and within the boundaries of Minnesota over 80 other cases and 6 deaths were traced to Mankato. Had it not been for prompt and effectual preventive measures the epidemic would have assumed much larger proportions. Of the cases within Mankato from 10 to 16 per cent were secondary.

Mankato is situated in the south-central part of Minnesota, on the east bank of the Minnesota river. Heavy rains during the early summer had caused the highest water in the Minnesota since 1881. The crest of the flood occurred June 25th. On this date there also occurred in Mankato an extremely heavy rain, the run-off of which from the precipitous slope immediately east of the city flooded to a depth of over a foot several of the streets, including the one on which the wells supplying the city are located.

The preliminary visitation caused some alarm, but no great apprehension of danger was felt. It was, however, serious enough to be given considerable prominence in the local papers. A press notice came to the attention of the Secretary of the State Board of Health, Dr. Bracken, who lost no time in getting to Mankato. With him went Dr. H. W. Hill, Assistant Director of the laboratories of the Board. The explosive and general nature of the epidemic caused them to suspect the water supply. The authorities told them that the contamination of the water supply

was a physical impossibility. Nevertheless an examination of the sources of water supply was made, and the conditions found amply justified the suspicions.



Fig. 1. Map of a portion of Mankato, Minn., showing the location of the artesian wells forming the water supply.

Fig. 1, a partial map of the city, shows the location of the various wells from which the city supply is drawn. Those on Washington Avenue are owned by the city; the other two connected with the city supply are owned by the Mankato Electric Light Company.

A few days after the visit of Drs. Bracken and Hill, the writer, as engineer for the State Board of Health, visited the city for the purpose of obtaining more exact information as to the construction of the wells and their relations to possible sources of contamination. Two of the wells had already at this time been put out of service, and the city was depending upon the wells of the Electric Light Company for part of its supply. It was also the purpose of this visit to recommend improvements, so that these wells could be put back into service without endangering the quality of the water.

Well No. 1 is of recent construction and apparently of good material and construction. The only possibility of contamination at this well was from street-wash leaking through the plank covering. Well No. 2 is some twenty years old, and both the overflow to the sewer and the suction-pipe were badly corroded. Holes of one and one-half inches diameter entirely through both pipes were found. The sewage in the sewer immediately beneath the well-pit certainly backed up into the pit and as surely was drawn into the

suction-pipe of the water supply system. Well No. 3 was recently constructed and was so constructed as to make contamination impossible. Well No. 4, at the intersection of Washington Avenue and Broad Street, called the "Broad Street Well," was found in a condition of extreme neglect. For the second time in the annals of human suffering has a "Broad Street Well" been the instrument by which came the scourge. When first examined by the writer, this well-pit was filled with water to a point within four feet of the surface of the ground, and the lower outlet to the sewer was dimly visible through the turbid water. It was obvious from debris in the crevices between the brick side-walls and plank covering that the water in the pit had been as high as the surface of the ground. A curiously placed pipe in an inclined position, which appeared to be a branch of the well-casing, occupied the center of the pit. No one in Mankato could tell what this pipe was, though many guesses were hazarded; later a workman stepped upon it while entering the pit, and it rolled to one side. This incident is mentioned to bring out the remarkable fact that previous to the epidemic no one was familiar with the construction of this well. Later, upon the partial subsidence and clarification of the water in this pit, it was found that the supposed top of the well casing was in reality but one end of the vertical arm of a T, the other end terminating a foot or more above the bottom of the pit. The horizontal suction-pipe acting as a cantilever beam supported this arm from the side of the pit. It is absolutely certain, as will be shown below, that the sewage backed up into this pit, and the high-water mark in near manholes shows that the sewage backed up to within 18 inches of the surface of the street, or about 6 feet higher than the bottom of the pit. Thus was sewage pumped directly into the water mains of the city.

Near this Broad Street well, just after the heavy rain mentioned above, a sinking of the surface of the street was noticed and later water appeared in the depression and then disappeared, only to again reappear. This led to the suspicion that the suction pipe was leaky. It was excavated and found to be broken entirely across. This is another possible source of contamination. The sewer which backed into the Broad Street well is seen to have no connection with the one which backed into well No. 2.

At the outlet of the sewer passing the Broad Street well is a large manhole or pump-pit, divided into two parts by a wall running at right angles

to the line of the sewer. In the up-stream division of this pit was a small centrifugal pump, which at time of high water in the river pumped the sewage over the top of the wall. At the ordinary stage of water in the river the sewage flowed through a gate in the wall directly. When the high rainfall came this pump could not handle the sewage; hence the backing up. The engineer of the pumping plant was notified of the backing up through the appearance of sewage in the engine-room of a nearby flour-mill. The engineer of the flour-mill hastened to the pumping-station, the gate in the wall was opened, and all was supposed to be well. However, the unusual appearance of the city water supply was soon noticed. It was said to be very turbid and to have considerable odor. The engineer at the pumping-station was notified by the Health Commissioner, and he claimed to have telephoned to the President of the Board of Public Works for permission to shut down the pumps and that the latter refused because the reservoir did not at the time contain enough water for fire protection. The President of the Board denied such orders. In any event, the pumping of sewage went on for some time.

When the pumps were not running it was customary to allow the overflow of the Broad Street well to run through the suction pipe, which by the way sloped toward the pumps instead of toward the wells, through the pumping-station to a drain leading to the river. When the pumps were in use a gate closed this outlet. It is uncertain when this gate was open or closed, but during a considerable part of the time sewage was high enough on the lower side of the gate to allow it to flow back into the suction-pipe in considerable volume. There is evidence to show that this must have occurred, since the sewage backed up to the boiler-room floor and its route thence was through a manhole into which the suction-pipe discharged.

All of these conditions making possible the contamination of the city water, were, as has been intimated, unknown to the City Council, to the Board of Public Works, and to the Health Commissioner. Mankato citizens, as well as the city officials, prided themselves on their supply of pure water. It was one of the assets of the community. The organization of the city government was such, however, that no one person was specifically charged with responsibility of the water supply and given control over it. It would be difficult to lay the blame at the door of any one person. Any one of several, had they fully ap-

prehended the situation, could possibly have averted the catastrophe; that is, if their words would have been heeded, which is improbable.

That an artesian well water supply should be seriously contaminated is unusual, but that a typhoid epidemic, having an aggregate of 500 cases, should be suppressed in a few months with less than 50 secondary cases is not only unusual but very remarkable. This very creditable work was due chiefly to the able direction of Dr. H. W. Hill. It was also due to the unremitting vigilance, determination, and executive ability of Dr. A. O. Bjelland, of Mankato, and his assistants.

Immediately upon the appearance of the preliminary epidemic, the danger of a typhoid epidemic later was recognized, and Dr. Bjelland issued in the local papers an interview, the headline of which on the front page was, "BOIL THE WATER." This was done on June 27th, and on the next day a street-cleaning department was organized under a special sanitary inspector. Then a "clean-up" notice was run in the papers. Lime was poured into every privy in the city. All piles of garbage and manure were collected and removed. Later the Minnesota State Board of Health's placard in regard to typhoid, together with special instructions for those caring for patients and also information as to how typhoid could be contracted, were published daily in conspicuous places on the front pages of the newspapers. No doubt this use of the press was one of the most powerful agents in this campaign of forced education.

An emergency hospital was organized. The German Catholic school building was placed at the disposal of the city through the good offices of Dr. Hegeman, and the Sisters of the Sorrowful Mother furnished twelve nurses. In three days a thirty-five-bed hospital was ready for use, and during the epidemic 129 patients were cared for. The city spent \$800 for equipment.

Special rooms were rented for temporary offices; and an assistant health officer, a stenographer, and two visiting nurses were employed. These two nurses, Miss Jessie Clark and Miss Grace Robinson, both of wide experience, visited every household in which typhoid existed, gathered data, and gave personal instruction in the care of patients and prevention of infection. Letters of caution were sent to every drug-store, restaurant, saloon, hotel, boarding-house, grocery, milk-dealer, confectionery-dealer, ice-cream and soda-water dispenser, and to all cooks, waitresses and helpers in public places.



Fig. 2. Map of the southern half of the state of Minnesota, showing the spread of typhoid infection from Mankato, following the epidemic of 1908.

Fig. 2 is a map of Minnesota, showing the points to which typhoid was carried from Mankato. At present typhoid fever is above the usual in Minnesota; whether from the effects of the Mankato epidemic or not is somewhat uncertain, but, in all probability, it is in some degree due to that cause.

Some years ago a typhoid epidemic occurred in Breckenridge*, Minnesota. No particular steps were taken to suppress it. The State Board of Health was not consulted. A resident of that city stated to the writer that steps were taken to conceal the fact that there was an epidemic, and this is probable, since such concealment is an almost universal practice. In this epidemic there were approximately 800 cases, less than one-half being primary.

Compare this with the Mankato epidemic—and it is as comparable as such things could well be—and the efficiency of the work of Dr. Hill and the others mentioned is shown in its true perspective. That work in all human probability saved from twenty to thirty lives and prevented from four to five hundred persons from contracting the disease. It controlled the epidemic in less than three months and entirely eliminated the disease from the city within five months.

There is no doubt of this fact: that Mankato was thoroughly awakened, and the ability of the community shown in meeting the emergency is worthy of the highest praise.

To prevent a recurrence of such a disaster, the city of Mankato has employed a special sanitary engineer, Mr. John Wilson, who is now engaged

*Breckenridge has, since the writing of this paper, decided to install a water precipitation plant.

in repairing and reconstructing the wells and parts of the sewer system of the city.

Mr. Wilson has since been appointed City Engineer of Mankato and still holds the position. In addition to making a thorough survey of the city, both above ground and underground, Mr. Wilson has put the wells and pipes of the water-works in a safe condition. The suction-pipe was taken up, and during the process, 34 breaks were discovered including 3 where the pipe was broken completely around. One of the three breaks had been patched with canvas. After relaying the suction-main the wells furnished a sufficient amount of water for all purposes. The use of the wells of the Electric Light Company has been discontinued.

A new sewage-pumping station has been built containing two centrifugal pumps. Its cost was \$3,000.

In all, the city of Mankato has spent about \$7,000 to prevent the recurrence of typhoid from the water supply, and it is safe to say that the money was well expended.

DISCUSSION OF THE PRECEDING PAPERS

DR. C. M. MORE (Eveleth): I am not personally familiar with the Mankato epidemic, which has been so clearly described by the essayists, but "if we could estimate the value in dollars of the 35,000 people who die of typhoid fever in the United States every year and add to this the cost and labor expended to care for the 350,000 who recover, we would find it enormous, and the necessity of stamping out typhoid fever would possibly be brought home more forcibly to certain minds than any statement regarding the number of deaths."

The disease, being more prevalent in rural communities than cities, is more difficult to control, but many country districts have learned from bitter experience that prevention is better than cure.

I might be pardoned for mentioning my home town of about 9,000 people, including its adjoining mine locations. The town has been in existence fifteen years. During the first nine years we experienced three epidemics of typhoid fever, due at first to polluted water and continued by flies, which always appear in greatly increased numbers at such times. During the last epidemic we had 350 cases, with eighteen deaths, sixteen being reported to the local Board of Health. Business was interfered with, and work in the mines was greatly crippled. The financial loss, while it could not be computed, was heavy.

We did not ask the legislature for money, but the citizens served an injunction restraining the council from furnishing or attempting to furnish any more water from the polluted source. They accepted an offer of the mining superintendent to take water temporarily from one of the mines, which was found by analysis to be good potable water. We elected a new set of city officers, bonded the city for all it would stand, and with the assistance of the mining companies and advice of the State Board of Health, especially the laboratory

department, installed a water-plant, bringing pure water from a virgin lake two and one-half miles distant.

Fishing, boating, swimming, etc., and camping on the lake shore are strictly prohibited, and native typhoid fever is unknown. What little we have is imported to our hospitals from outside sources.

From the standpoint of life and health and freedom from anxiety, the water-plant has paid for itself many times over, and is making good financially. So, judging from our own experience, any trouble and expense that will prevent an epidemic of typhoid fever is imperative, and neglect is criminal, for which the city officials should be held as legally responsible as a bank officer of a defunct bank.

As flies play an important part in prolonging an epidemic of typhoid fever, especially in boarding-houses, their extermination demands prompt and continuous attention.

DR. H. M. BRACKEN (Minneapolis): I have little to add to what has already been said. I feel that this Mankato outbreak of typhoid fever is to become classical. We do not often have the opportunity to begin the study of an epidemic before the epidemic begins, but that was the case in this instance, for its coming was predicted and the first case was recognized.

It is to be hoped that the experience of Mankato will teach many things, and one is that municipalities must be more careful in the construction and operation of their water systems. Mankato took it for granted that it had an unusually good water supply simply because it had artesian wells. But we soon found that possible means of pollution existed. A somewhat similar occurrence to this took place at the State Agricultural School a short time ago. A diarrheal outbreak occurred, and when it was suggested that this might possibly be due to the water supply we were indignantly told that this could not possibly be the case, but by the merest accident we learned that the sewer had been plugged just below the pumping station, and the sewage had occasionally been backed up into the room where the pump was located; even then the people were not convinced of the possibility of the sewage getting into this deep well until it was demonstrated by Dr. Wesbrook and others. It was shown that there was a crack through the floor, and that the sewage reached the deep well through this.

DR. A. O. BJELLAND (Essayist): In regard to the question asked by Dr. Bracken: I will say that I did not get the \$2,500 or any part of it. I dislike to mention what Mankato pays its health officer. The council of Mankato has gotten so tired of hearing what the health officer received that it is like waving a red rag in the face of a bull to mention it to them. I received \$200 a year, or \$16.66 2-3 for a month's work. For this sum I was expected to give my whole time and energy to this epidemic. I was promised extra compensation, and on that promise I had to sue the city for \$1,020, and the case is now pending in court. Incidentally, they had a smallpox epidemic which we had just passed through, when the typhoid epidemic started. I had a scarlet fever epidemic and a diphtheria epidemic and a few little things like that on the side to occupy my time in 1907, and I thought they ought to pay me for my service in the typhoid epidemic. Another reason why I wanted them to pay me is because it taught them something. The health officer spent practically \$3,300 for this epi-

demic, but only \$800 were used by the health department, and I believe I am almost as economical as the surgeon-general of the navy. The balance was used for the hospital. This \$2,500 was put in the general fund of the city, but has long ago disappeared with nothing to show for it. Of course, my paper was only a history of the epidemic, so as to start a discussion of this subject, and I wish to say again that the health officer in the

ordinary rural town or small city is practically helpless. No authority, no financial backing, nothing besides his own personal efforts and the mob rule. He must call on the State to make his work effective. He should notify the State Board of Health, and it will stand by him. It stood by me with good results, and the continued and splendid support it gave me makes me a loyal admirer of the Board. (Applause.)

STATE ASSOCIATIONS AND THE AMERICAN MEDICAL ASSOCIATION*

BY FREDERICK R. GREEN, M. D.

Assistant to the General Secretary of the American Medical Association

CHICAGO

The relation between the American Medical Association and its constituent state associations is practically the same as that which exists between the Federal Government of the United States and the state governments. In 1847, when the American Medical Association was first organized, there were comparatively few state organizations in existence, these being confined mainly to states along the Atlantic seaboard. In the first preliminary convention, held in 1846, only seven state associations were represented. The original intention in organizing the American Medical Association was to have it composed exclusively of delegates elected by state associations. It was found, however, that the great majority of states had no organizations, and consequently delegates were admitted from local and district societies, as well as from medical colleges, hospitals, etc. From the beginning, however, the Association was a delegated body composed of delegates elected by the various societies in affiliation with it. With the development of the country and the settling of the west, state associations increased in number, but no change was made in the fundamental principle of organization until in 1901, at St. Paul. Through the enormous increase in the number of delegates, existing conditions became impossible, and accordingly reorganization was effected along more systematic lines, and the right to send delegates to the national body was restricted to state associations, as had been originally proposed.

It is impossible to go into the details of the reorganization movement, with which most of you are doubtless thoroughly familiar. I shall therefore consider the relations between the American Medical Association and the consti-

uent state associations, which are, in the main, practically the same as those which exist between the state and national governments.

What are the functions of the national body as compared with those of the state organization? Plainly, the analogy which has been indicated, exists. The state exercises those functions which affect the state alone, while the national body, being composed of representatives of the various states, exercises those functions and duties which the individual state association cannot perform. For instance, when it was decided, in 1882, that a journal should be established which should represent the entire country, it was recognized at once that this was a function of the national association. Consequently, the American Medical Association established the *Journal of the American Medical Association*, which represents the entire profession, and which, especially in the last ten years, has come to occupy so large a place in medical literature.

Another function which the state association cannot well perform and which therefore belongs to the national organization, is the oversight and control of medical education. The difficulties in the way of control of this subject by state associations are obvious. To perform this function, the American Medical Association created the Council on Medical Education. This Council does not possess any authority or power of compulsion, but exercises its influence solely through the inspection of colleges and the collection and publication of facts regarding the medical educational institutions of the United States. The influence of this body in the past five years has been enormous, and yet its work is just begun.

Closely allied with this work is that of public instruction, for which purpose the Associa-

*Read at the 41st annual meeting of the Minnesota State Medical Association, held at Winona, Oct. 14 and 15, 1909.

tion has created the Board of Public Instruction on Medical Subjects, for the purpose of enlightening and advising the people regarding medical subjects, so that the public may be properly advised, instead of learning these matters through more or less questionable and mercenary sources.

Another most important work which the Association has undertaken has been the examination of proprietary pharmaceutical preparations. For this purpose the Council on Pharmacy and Chemistry was established, which now has its own laboratory at the Association headquarters. You are all, I am sure, familiar with this. Beginning with the examination of proprietary pharmaceutical preparations, it is now also doing valuable work in the examination of patent medicines and nostrums foisted on the public. Established originally for the information of the medical profession, its scope has been enlarged, and it is now educating the public, as well as physicians.

It will be seen that all of the lines of work taken up by the Association have been undertaken for the enlightenment and education of physicians and of the public: The Journal for the instruction of physicians along scientific lines; the Council on Medical Education for the enlightenment of the profession and the public regarding medical schools; the Board of Public Instruction for the instruction of the public for the conservation of public health; the Council on Pharmacy and Chemistry for the instruction of the profession and the public regarding drug preparations. There remains an important field still unprovided for; viz., the furnishing the profession and the public with reliable official facts regarding the personnel of the medical profession. This is also obviously a function of the national organization. To meet this need, the American Medical Association has undertaken the publication of a directory of the medical profession of the United States, based entirely on impersonal and official information. This is the special subject on which I want to talk this afternoon.

Considerable interest has been manifested as to just what the object of this book was and why the Association should undertake it. Before discussing the details of the Directory publication, in order to show the necessity for such a work and why the American Medical Association is the only body that can take it up, I want to say a word on the general subjects of medical legislation, the licensing of physicians, and the regulation of the practice of medicine. These may

seem at first to have no relation to the publication of the Directory, but I think I can show you that they have a decided connection.

The regulation of the practice of medicine is recognized by practically all of the civilized governments as the proper function of the state. There are practically no civilized governments that do not have some laws that regulate the practice of medicine. The British Medical Association about two years ago appointed a commission to inquire into this subject. This commission has recently submitted a report containing a large amount of most interesting material secured through the co-operation of the British Government. Out of 114 governments in existence today, 91 have some form of restrictive legislation by which the practice of medicine is regulated. In 11 countries the law requires registration, but does not prohibit the practice of medicine by unregistered persons. There are only 12 countries in the world that have no law at all, and most of these are semicivilized, as is shown by the following list: India, Wei-hai-wei, British East African Protectorate, St. Helena, Somaliland Protectorate, Uganda, Zanzibar, Cayman Islands, China, Persia, Abyssinia, and Morocco. It is therefore safe to say that practically every civilized country has some form of law for the regulation of the practice of medicine.

When we examine the laws of the various nations we find that they fall naturally into two general groups. Ninety-one belong to the restrictive group, while 11 belong to the definitive rather than to the restrictive type. By restrictive I mean a law that prescribes certain qualifications for the practice of medicine and prohibits any one not possessing them from practicing medicine. In other words, it restricts the practice of medicine to a certain class. The other or definitive class of laws does not limit the practice of medicine to any one class, but simply defines those who shall be recognized by the state as qualified to practice medicine and then allows the individual to select the qualified or unqualified physician, as he may choose. The medical-practice act of Great Britain is probably the best type of the definitive law. The title of this act reads as follows: "Whereas, it is expedient that persons requiring medical aid should be enabled to distinguish qualified from unqualified practitioners, Therefore, Be it enacted," etc. The recognized object of the law is not to authorize certain persons to practice and to forbid other persons to practice; it is enacted for the benefit of the public, in order that the people may be

able to discriminate between those who are properly qualified and those who are not.

As an illustration of a restrictive form of legislation, the law of the state of Delaware may be taken. This statute begins: "Whereas, the safety of the public may be endangered by incompetent physicians and surgeons, and due regard for public health and the preservation of human life demands that none but competent and properly qualified physicians and surgeons shall be allowed to practice their profession; Therefore, Be it enacted," etc. The difference between the two forms of regulation is that the one defines and the other restricts.

Now, without going into the merits of these two systems, although there is a good deal to be said on both sides as to which is best, I want especially to emphasize the fact that whatever form of medical legislation is adopted, the success or failure of the operation of the law depends on the manner in which the registration system is carried out. It makes no difference whether the law simply defines who shall be endorsed by the state or whether it restricts the practice of medicine to a certain class, the administration of the law is not effective unless the system of registration is sufficiently exact to determine easily, quickly, and positively whether any given individual has or has not complied with the requirements of the law. Consequently, all laws, whether restrictive or definitive, should have a registration system by which an individual physician is required to register his qualifications. In practically every other country except the United States, this system of registration is under the control of the general government, but in the United States the regulation of the practice of medicine comes under what is known as the police power of the state. This police power is one of the powers of the state which has never been delegated to the general government. When the United States Government was organized by the voluntary coalition of the thirteen colonies, it was decided that those rights which the colonies did not definitely surrender to the general government, were to remain as recognized rights of the state. Consequently we have a condition in the United States which cannot be duplicated in any other country. The regulation of the practice of medicine is a function of the state and not of the Federal Government. Consequently any national law regulating the practice of medicine would be unconstitutional. This is why we cannot have a national system of examination and registration.

Now, the regulation of the practice of medicine being a state function and its efficiency being determined by the enforcement of the law and the proper operation of an adequate system of registration, it follows that a system is strong or weak in accordance with the extent to which an adequate system of registration is enforced.

If we go back to colonial history we find early laws regulating the practice of medicine. Massachusetts enacted a law as far back as 1637. The New York colony being a crown colony, long before the Revolutionary War, enacted a law placing the regulation of the practice of medicine in the hands of the Board of Regents of Kings College. Following the Revolutionary War this authority was transferred to the Board of Regents of the University of the State of New York, which University became the successor of Kings College. In New York state the regulation of the profession has always been one of the duties of the Board of Regents. In our western states state governments were organized as the various territories were settled. In the early days any kind of a physician, no matter how crude or slight his education might be, was of service to the community on account of the scarcity of properly educated professional men. In the east and south many states adopted laws in the first quarter of the nineteenth century vesting in the state medical societies the regulation of the practice of medicine. For various reasons most of these laws were repealed between 1830 and 1850.

Following the Civil War, beginning with 1865, came the second period of constructive state legislation, due mainly to the work of the American Medical Association and especially to that of Dr. N. S. Davis, of Chicago, who insisted from the beginning that there should be a complete separation between the educating and the licensing bodies, and that the body that did the educating, namely, the medical college, should not have the right to grant the license. Today practically every state in the Union has a medical-practice act, most of them being based on the general principle of the restrictive act, and requiring registration as a preliminary to the legal practice of medicine. Now, it is a strange fact that although the securing of these laws required years of effort and much hard work on the part of the profession and although the proper enforcement of the laws depends absolutely on the administration of the registration provisions, yet practically no attention has been paid in many of the states to the question as to

how the law has been administered in this particular or how the registration has been carried out. To such an extent has this been carried in some states that the law is practically a dead letter simply through failure to enforce the registration clause. In Minnesota, you have a very effective license law, and your state is one of the states that publish a complete roster of the licensed and registered members of the profession each year. All of the states, however, are not so fortunate, and in some the law is practically inoperative since it is impossible to tell what physicians are registered and what ones are not.

We have, then, in the United States 49 states and territories each of which has a different standard for medical registration and an independent system of registration. In these states there are 66 licensing bodies, each with different standards and with a separate set of records. These records, in many cases, have never been indexed and have not been revised for years, and are in such shape that it is practically impossible to tell who is entitled to practice in the state. As it is necessary to prove that an individual is not licensed to practice before he can be prosecuted for practicing without a license, it is practically impossible to convict any one of violation of the medical-practice act in a state having such records.

The United States is the only civilized country possessing restrictive medical laws in which such things are possible. While the British Medical Practice Act is definitive and not restrictive, yet the roster of the legally qualified medical profession is published by the Government and contains the name, classification, date of license, and present location of every physician registered as qualified to practice medicine in the British Empire. This book is issued once a year, and a copy is sent to all government officers, judges, police courts, etc., and is accepted as competent legal evidence of the right to practice. If a physician's name appears in this Register he is recognized as legally qualified. If his name does not appear he cannot hold any government medical position, issue any certificates regarding sickness, disability, vaccination, etc., testify as an expert witness, or sue in court for professional services.

Germany, France, Italy, and all other European countries have rosters of qualified physicians which are issued by the Government and are accepted as official lists of the profession.

What is the condition in the United States? Medical registration is left to each state and has been a success or failure in proportion to

the attention which the state has devoted to the problem. The result is that there is no such thing as a single source of information from which one can secure the facts regarding the personnel of the medical profession. Until 1882 there was no national medical directory. Until recently all professional directories published were purely commercial enterprises, gotten out for the benefit of the publisher. The importance of this question has been long appreciated. Early in the history of the American Medical Association the question of the publication of a national directory came up. The Association was then without funds, and it was impossible to take any action. Frequently, during the past thirty-five years, the matter has been discussed, but no action has been taken. Finally, in 1905, the Association at the Portland meeting decided to compile and issue a medical directory based on official information and containing the names of none but legally qualified physicians. When this work was first taken up we wrote to the secretary of every medical examining board asking for a complete list of licentiates. You would be surprised to know how many boards were unable to supply such a list or were in doubt as to the number of physicians who were legally qualified to practice medicine in their state. In one state we estimated there were about 5,000 licentiates and wrote the secretary of the state board, offering to furnish 5,000 cards and pay the expense of copying if he would have his records copied on our cards. In reply he said that 2,500 cards would be enough. We wrote him that there surely were more than 2,500 physicians licensed in his state, but as he was positive we sent him 2,500 cards. About two weeks later I received a telegram from him, followed by a letter asking for 2,500 additional cards. In explanation, he said that they had recently been cleaning house and that in a back closet of his office he had found two old registers which contained 2,500 names, which he had never seen before. Yet on this record, buried in the depths of a closet, depended the legal standing of half of the medical profession of the state.

After much effort and hard work we secured the names of practically every legally qualified physician in every state, and we now have a complete card index, giving the name, the college and year of graduation, and the date of state license of every legally qualified practitioner in every state in the Union. This is kept corrected up to date by reports received after each examination. In the same way we have compiled an index of college graduates made up of official

reports received from the registrars of the colleges. This index is also kept corrected up to date by reports of graduates received each year. These two indices are the basis of the American Medical Directory. No physician is entered in the Directory unless his name is reported to us by the secretary of the licensing board of the state in which he practices. No physician is entered as a graduate of a medical college unless his name is reported to us by the registrar or the secretary of the faculty as a graduate of that school. No physician is entered as a member of his county and state society unless his name is reported to us by the secretary of his state society, and no physician is entered as a member of the American Medical Association unless his name appears on the official record.

The result is that we now have a Directory which is based almost entirely on official information received from official sources and not utilized in any way for advertising or making prominent any one physician more than any other.

Now, this is the obvious part of this work which the public and the profession generally see. The most important part of it, however, is that which relates to the co-operation between the various state boards and the American Medical Association. The acquisition of large quantities of tabulated material and official information regarding the physicians of the country has enabled us to establish a central clearing-house for information regarding the physicians of the United States. In addition to the index of licentiates and of graduates, we have on file about 80,000 personal biographical blanks filled out by physicians themselves, large quantities of reports sent us by county and state secretaries, enormous quantities of newspaper clippings con-

taining all sorts of information of a personal and biographical nature, a large number of advertisements of advertising physicians, quacks, fakes, imposters, etc., sent us from various sources, principally by secretaries of county societies, material regarding the professional record of physicians in the different states sent us by the secretaries of the state boards,—in short, all the material which can be gotten together regarding the personnel of the medical profession is carefully preserved and filed. We thus have a central bureau to which any state board secretary can write at any time for information regarding any physician. We have said to the secretaries of the various state licensing boards: "If you will send us the records you have regarding the physicians of your state, we will keep them on file and preserve them, and if, at any time, you want to know anything about any man in the country, send to us and we will send you the information, if we have it." This material is for the use of all state board secretaries, college faculties, secretaries of medical societies, and the general public. Since its establishment it has resulted in untold good to the medical profession. Its usefulness is just beginning to be recognized by the public and inquiries are coming to us in increasingly large numbers asking for information regarding the various physicians. In fact, it is just being recognized that there exists today in the headquarters building of the American Medical Association a personal information bureau regarding physicians to which can be referred inquiries of any kind and to which can be sent material for classification and preservation. This work is necessarily and essentially the function of the national organization and is, I think you will all agree, of the greatest importance to the profession itself.

CONSERVATION OF HUMAN LIFE

BY H. M. BRACKEN, M. D.

Executive Officer of the State Board of Health

MINNEAPOLIS

In issuing the call for this Conservation Congress, Governor Eberhart said: "To determine what the resources of this state are and how the rapid and intelligent development of Minnesota may be best assisted, will contribute greatly to the advancement of this state."

And further: "The development of the best sanitary conditions to insure public health must be considered and agitated in order to give force to a state wide movement for the development of Minnesota."

Still again, he said: "How best the public health may be protected is a question deserving ample discussion, to the end that a broader and more intelligent view of these subjects may be had."

Such words, coming from the Chief Executive of the state, are most encouraging. Public health problems belong to the people and when the leaders of the people recognize this fact, there is hope.

Civilized people are coming to a realization of the fact that disease constitutes a great bar to

human progress. Not only those who suffer from disease are affected, but the disease of the parent reaches the child, both by heredity and through the direct influence upon mental and physical development.

A great state that is considering such questions as the conservation of its forests, its water-powers, its mines and other problems involving financial prosperity, cannot afford to pass lightly those relating to conservation of human life. Over 20,000 human beings die annually in Minnesota, and of this number nearly half die of preventable diseases. If preventable, why not prevented? In Minnesota in 1908 tuberculosis killed 2,161 people; pneumonia 1,877; diarrheal diseases of children 1,291; cancer, 1,259; diphtheria 574; typhoid fever 370; whooping-cough 162; scarlet fever 117; puerperal sepsis 117; measles 87; smallpox 32; tetanus 17. To those deaths from preventable diseases must be added those from other preventable causes, such as accidents and injuries, and even the deaths not directly assigned to a preventable cause, but due to improper housing in the home, the school-room, the work-shop, and the factory. With such facts before us, can we ignore the importance of conserving human life?

Strange as it may seem, sentimental and humanitarian arguments are of little avail in dealing with legislative bodies, yet it is to these bodies that we must look for the funds to carry out the conservation of human life. It is the almighty dollar that talks. A commercial problem will receive prompt attention, as evidenced by the large sums of money spent through our national and state governments in dealing with the preservation of the life of animals.

If we must reduce a problem to a commercial standard before it can receive proper legislative action, submit to some statistician the question as to the *cost* in dollars, of sickness and death, direct and indirect, resulting from preventable causes, and he will quickly show you the value of human life and the loss to our state annually through such deaths. It is estimated that the actual loss to this state through one disease alone, tuberculosis, was over \$23,000,000 for the years 1906 and 1907, and this loss did not take into account the *cost of disease*, nor the deterioration in earning capacity in after years of the children of the deceased. With this as a basis, estimate, if you can, the yearly financial loss to the state, through death alone, from the several preventable causes already referred to.

How are we to meet this condition and bring about the conservation of human life? By edu-

cating the people as to actual facts and through co-operation of the many agencies interested in the protection of human life. Such co-operation should be between federal and state agencies; between educational and sanitary bodies; and between executive bodies dealing with public health problems from different standpoints. Co-operative work has already been carried on from time to time between certain federal departments and the Minnesota State Board of Health in the study of the waters of the state. Co-operative work is now being carried on between certain educational bodies and the State Board of Health, but this should become more general.

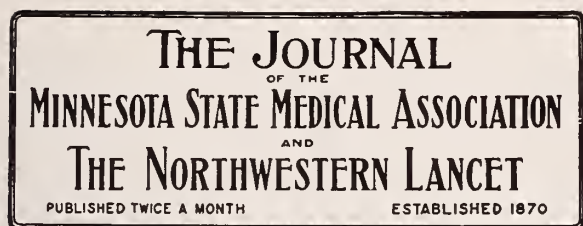
Every school child should be taught the simple elements of sanitation. Every high-school graduate, every agricultural-school graduate, every normal-school graduate, every college and university graduate should go out into active life with a training in sanitation that would enable him or her to take a prominent place as a conservator of the public health.

But we may be more specific. We should find the state departments of public health, of labor, of foods, of animal diseases, all working together as conservers of human life. So closely interwoven should such departments be that it would not be amiss to create a *Department of Public Safety* for the state, embracing these four divisions. The state has accepted the commission plan for dealing with railroads and warehouses, with taxes, banking, etc., why should it not have a commission to govern such a Department of Public Safety?

Such commission should be in continuous session, as are the other state commissions. It should be made up of men familiar with the different problems involved. The commissioners should be appointed for the longest possible terms and should be eligible to re-appointment, for the greater the experience, the greater the value of the expert. Such a commission would economize in every way for the state. Its inspectors would be looking after many things, rather than for single faults, as they traveled over the state.

Such a commission should be housed in a building of its own, with proper laboratory facilities.

It is my opinion that the legislator who is wise enough to create in this state such a commission, with suitable provisions for wise appointments and sufficient equipments, would pass into history as a benefactor, not only to his own state, but also to other states, which, seeing the wisdom of his action, should adopt through their legislators his ideas.



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APRIL 15, 1910

THE ROSTER FOR 1910

A year ago we expressed our surprise and our great regret that so many men of high standing in the profession of the state had failed to pay their annual dues to the State Association and thus allowed their names to be omitted from the Roster, which is deemed, by the Association itself, an integral part of its annual transactions.

It is a matter of congratulation that the Roster of 1910, to be published in our next issue, will be free from many of the omissions of last year. Nevertheless some societies will show that a few of their best members have neglected to pay their dues and therefore their names will not appear in the list of men who are striving to advance the interests of the profession and of the public.

If those who know themselves to be delinquent will attend to the matter at once, by paying their dues and requesting their secretaries to send their names promptly to Dr. McDavitt, all the dark spots of the Roster will be blotted out.

A FEDERAL DEPARTMENT OF PUBLIC HEALTH

Elsewhere in THE JOURNAL-LANCET will be found Senate File No. 6049, known as the Owen bill. In order to secure its passage it is necessary for every physician to see that his congressman is inundated with letters endorsing the principle of the bill.

President Taft, both political parties, the National Grange, the American Federation of Labor, the American Medical Association, and the Committee of One Hundred have put themselves on record as in favor of a broad reform of existing conditions.

Usually, matters of this kind are not given the attention they deserve, and in order to make the appeal impressive the doctors and the people should urge and demand that a bill of this kind shall be considered and passed without further delay.

Various other measures of less importance are given widespread advertising, but when the question of public health under federal control is mentioned it frequently meets the fate of the effort of physicians who attempted to impress upon the United States authorities the necessity of sanitary care at the time of the Spanish American war.

If medical men in this country, even if limited to those who are concerned with local health problems, would take this subject up seriously and earnestly the bill would be so heartily endorsed that its passage would be assured.

Every medical man should do his duty, even though he feels that the responsibility should be placed elsewhere. Every district, county, and state society should send an official letter of endorsement to every congressman in their state, for this kind of a campaign would create a sentiment that would be convincing. Why not try it?

UNIVERSITY MEDICAL BUILDINGS

Ground was broken last week for the buildings of the new Elliott Hospital, the Institute of Anatomy, and the new Millard Hall.

This means much for the medical department of the University. For several years preparations have been going on looking toward an enlargement of the medical campus. The bequest of Dr. Elliott amounts to \$113,000 and the legislature appropriated \$40,000 additional for enlarging the hospital to meet the immediate needs, and some \$47,000 was raised by private subscription to acquire land upon which the hospital was to stand.

The years of delay in making plans and in discussions have been exceedingly trying to the medical faculty, but the end of it all seems near; and it is hoped that the first building will be the means for other bequests, and that eventually the hospital will be adequate for teaching purposes. The dream of the promoters is very attractive, and if the public knew how much time, thought, and energy has been expended by the various committees in charge of the work, there would be a shower of bequests. The only way such ends are attained is through individual work among those who have means.

The physician who stands near a patient is often able to create an interest in a broad charity like this. The people who have money would gladly give if they knew for a certainty that it was to be applied to some good purpose. No one has ever given a sum of money for a hospital with a regret.

When an institution is under way and its scope or its possibilities are realized, it should appeal very strongly to men of wealth. As yet the West has not learned the value of giving for hospital construction. The time and place and opportunity have arrived, and if some wealthy man would start a movement in the hospital direction it would not be long before a large group of buildings would grace the new campus.

The work already accomplished by the temporary hospital buildings has demonstrated the need of a large institution for the poor and the necessity of adequate teaching materials. The education of the public in this direction demands personal interest aroused in the patient by the attending physician.

An example worthy of following is found in several large Eastern cities. Hospitals for children, hospitals for cripples, hospitals for paralyzed, hospitals for the border-line cases of insanity, institutions for research and the study of disease problems, and for the prevention of epidemics, are of more importance than equally expensive show places devoted to art or reforms.

The amount of good derived from such institutions, from a commercial stand-point, is often incalculable. The saving of useful lives means the saving of money for the commonwealth, yet it is hard to make such an argument appeal to those who are in a position to relieve the situation.

With the building of the new Millard Hall and the Anatomy building the medical department in the University will be placed on a sound and scientific basis. To associate buildings of this character with a modern hospital is highly desirable.

MISCELLANY

A BILL ESTABLISHING A DEPARTMENT OF PUBLIC HEALTH, AND FOR OTHER PURPOSES

On February 1st, Senator Owen introduced the following bill in the Senate of the United States, and the same was read twice and referred to the Committee on Public Health and National Quarantine.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That there is hereby established a Department of Public Health under the supervision of the Secretary of Public Health, who shall be appointed by the President a Cabinet officer, by and with the consent of the Senate, at a salary of twelve thousand dollars per annum, with like tenure of office of other Cabinet officers.

SEC. 2. That all departments and bureaus belonging to any department, excepting the Department of War and the Department of the Navy, affecting the medical, surgical, biological, or sanitary service, or any questions relative thereto, shall be combined in one department, to be known as the Department of Public Health, particularly including therein the Bureau of Public Health and Marine-Hospital Service, the medical officers of the Revenue-Cutter Service, the medical referee, the assistant medical referee, the surgeons and examiners of the Pension Office; all physicians and medical officers in the service of the Indian Bureau, or the Department of the Interior, at old soldiers' homes, at the Government Hospital for the Insane, and the Freedman's Hospital and other hospitals of the United States; the Bureau of Entomology, the Bureau of Chemistry and of Animal Industry of the Department of Agriculture; the hospitals of the Immigration Bureau of the Department of Commerce and Labor; the emergency relief in the Government Printing Office, and every other agency of the United States for the protection of the health of the people of the United States, or of animal life, be, and are hereby, transferred to the Department of Public Health, which shall hereafter exercise exclusive jurisdiction and supervision thereof.

SEC. 3. That the official records, papers, furniture, fixtures, and all matters, all property of any kind or description pertaining to the business of any such bureau, office, department, or branch of the public service is hereby transferred to the Department of Public Health.

SEC. 4. That the Secretary of Public Health shall have supervision over the Department of Public Health, and shall be assisted by an Assistant Secretary of Public Health, to be appointed by the President, by and with the advice and consent of the Senate, at a salary of six thousand dollars a year, with such duties as shall be prescribed by the Secretary not inconsistent with law.

SEC. 5. That the Secretary of Public Health shall be authorized to appoint such subordinates as may be found necessary. There shall be a chief clerk appointed at a salary not to exceed three thousand dollars a year, and such other clerks as may from time to time be authorized by Congress.

SEC. 6. That the officers and employees of the public service transferred to the Department of Public Health shall, subject to further action by Congress, receive the salaries and allowances now provided by law.

SEC. 7. That it shall be the duty and province of such Department of Public Health to supervise all matters within the control of the Federal Government relating to the public health and to diseases of animal life.

SEC. 8. That it shall gather data concerning such matters, impose and enforce quarantine regulations; establish chemical, biological, and other standards necessary to the efficient administration of said department, and give due publicity to the same.

SEC. 9. That the Secretary of Public Health shall establish a Bureau of Biology, a Bureau of Chemistry, a Bureau of Veterinary Service, a Bureau of Sanitary Engineering, reporting such proposed organizations to Congress for suitable legislation relative thereto.

SEC. 10. That all unexpended appropriations and appropriations made for the ensuing year shall be available on and after July first, nineteen hundred and ten, for the Department of Public Health, where such appropriations have been made to be used by any branch of the public service transferred by this Act to the Department of Public Health. It shall be the duty of the Secretary of Public Health to provide, on proper requisition, any medical, sanitary, or other service needed of his department required in another department of the Government.

SEC. 11. That any other department requiring medical, surgical, sanitary, or other similar service shall apply to the Secretary of Public Health therefor wherever it is practicable.

SEC. 12. That all officers or employees of the Government transferred by this Act to the Department of Public Health will continue to discharge their present duties under the present organization until July first, nineteen hundred and ten, and after that time until otherwise directed by the Secretary of Public Health or under the operation of law.

SEC. 13. That all laws or parts of laws in conflict with this Act are hereby repealed.

NEWS ITEMS

Dr. J. C. Adams has resumed practice at Lake City.

Dr. Thomas Arneson has moved from Balaton to Kennedy.

Dr. P. H. Irish has moved from Akeley to Dickey, N. D.

Dr. G. H. Coburn, of Deadwood, S. D., will move to Chicago.

Dr. A. T. Shearer, of Delavan, Wis., will locate in Minneapolis.

Dr. W. R. Lee, formerly of Fairfax, has permanently located in Minneapolis.

Dr. H. W. Coulter has purchased the practice of Dr. E. W. Rimer, of Mountain Lake.

Plans have been drawn for a \$30,000 addition to St. Luke's Hospital of Fargo, N. D.

Dr. J. W. George has moved from Aitkin to Minneapolis with offices at 825 First Av. South.

Dr. William Russell, who has long conducted a private sanitarium in Minneapolis, died on April 2d.

John Till, the Somerset plaster healer, has been naturalized, and will continue his work in Wisconsin.

A. W. Austin, who was practicing medicine at Little Falls without a license, was sentenced to twenty days in jail.

Dr. George B. Grober, formerly house physician in the South Chicago Hospital, has located at Big Falls, in this state.

The new hospital established by the Sisters of the Sorrowful Mother at Marshfield, Wis., was opened on the 6th inst.

Dr. H. V. Magnusson, of Battle Lake, has moved to Aitkin. Dr. Engstrom, of Clitherall, succeeds Dr. Magnusson.

Drs. J. W. Bell and C. Nootnagle have gone to Europe and will spend three months in special study, in the main at Vienna.

Dr. A. E. Aherns, of St. Paul, has gone to Vienna for post-graduate work in surgery. He will be absent five or six months.

Dr. A. Henderson, whose removal from Scanlon to British Columbia was announced in our last issue, is located at Powell River, B. C.

Dr. G. H. Coburn, of Deadwood, S. D., will move to Chicago. The Black Hill Medical Society gave him a farewell banquet on April 1st.

Dr. O. H. Hegge, of Austin, has returned from New Orleans, where he has been doing post-graduate work in the New Orleans Polyclinic.

Drs. T. J. Wood and B. H. Sprague, of Huron, S. D., have established a private hospital in a commodious residence just purchased by them.

Drs. J. W. Bettingen and E. F. Walsh, of St. Paul, have returned from Europe where they have been doing post-graduate work for the past five months.

Drs. J. C. Staley and A. R. Hall, of St. Paul, have moved to Mandan, N. D., and will have charge of the new Mandan Hospital. The building will be ready for occupancy next month.

Dr. E. A. Hensel, councilor of the First District, formerly residing at Alexandria, is now located in the Timkin building in San Diego, Cal. No councilor has been elected for the district.

The doctors of Carrington, N. D., have incorporated a stock company for the purpose of establishing a hospital at that place. About one-third of the stock (\$25,000) has been subscribed.

The Working Women's Evening Dispensary has been established in Minneapolis by Dr. Mabel Ulrich. Its purpose is to furnish medical consultation to working-women at a nominal figure (25c). The expense of carrying on the work will be borne by a public-spirited citizen, Mr. T. B. Janney and the Commercial Club, and the work will be done gratuitously by Dr. Ulrich. The Minneapolis Dental Society will maintain two chairs at the Dispensary, and the only charge for dental work will be the cost of material.

FOR SALE

A \$2,000 unopposed practice in southern Minnesota, ten miles from nearest doctor; fine farming country; collections 95 per cent. Practice and outfit, which includes team, buggy and cutter, \$700. Address B. R., care of this office.

WANTED

Man to take practice paying from 18 to 25 hundred yearly. New country; future prospects very bright. Will make terms to suit. An extremely desirable location for young man who can stand driving. Must be ready to take the place not later than June 1st. Address B. P., care of this office.

FOR SALE

A \$5,000 practice in central-western Minnesota. No opposition of any importance; in thriving village of 800

surrounded by a farming and dairy country; large territory; country well settled with Scandinavians; collections good. Will sell practice and good-will alone, or other property; anything to satisfy buyer. Have practiced here 11 years. On main line of R. R.; 8 passenger trains a day. Best of references. Reason for selling: must move out to West coast on account of family's health. Will introduce purchaser. Address H. H., care of this office.

FOR SALE

Physician's office furniture, instruments, and good medical library, and other things necessary to a physician. A good location for a young doctor in a suburb of the Twin Cities. Sale made necessary by death of physician. Address M. S., care of this office.

FOR SALE

A practice established 23 years and paying between \$3,000 and \$4,000. The good-will goes to the purchaser of my property at \$4,500. Cash \$2,500 and balance in 1, 2, 3, and 4 years without interest. Located in a village of 600 in South-central Minnesota. Address F. G., care of this office.

FOR SALE

A \$3,500 unopposed cash practice to purchaser of new modern home (\$4,200) and office equipment (\$500). \$2,700 cash required. Address D. C., care of this office.

FOR SALE

One new Victor No. 8 Cautery Transformer, for 110 direct current. Price, new, \$35.00. Will sell for \$25.00. Used about a dozen times. Reason for selling: The Electric Co. here has installed an alternating current system in place of the direct formerly used, which necessitated my getting an alternating current transformer. Address, T. W. HOVORKA, M. D.,

DEATHS REPORTED TO THE STATE BOARD OF HEALTH OF MINNESOTA FOR THE MONTH OF JANUARY, 1909

REPORTED FROM STATE INSTITUTIONS FOR MONTH OF JANUARY, 1909

STATE INSTITUTIONS.													
	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Acute Anterior Polio Myelitis	Typhoid Fever	Diarrheal Diseases of Children
Fergus Falls, Hospital for Insane.....	8	4	..	2	..	..	..	..	..	..	..	..	..
Rochester, Hospital for Insane.....	5	1	..	1	..	..	..	..	..	..	..	..	..
St. Peter, Hospital for Insane.....	1	1	..	..	..	..	..	..	..	..	..	..	..
Anoka, Asylum.....	..	..	..	..	..	..	..	..	..	..	..	..	..
Hastings, Asylum.....	..	..	..	..	..	..	..	..	..	..	..	..	..
Faribault, School for Deaf.....	..	..	..	..	..	..	..	..	..	..	..	..	..
Faribault, School of Blind.....	..	..	..	..	..	..	..	..	..	..	..	..	..
Faribault, School for Feeble Minded.....	7	6	..	..	1	..	..	..	..	..	..	..	..
Owatonna, School for Dependents.....	..	..	..	..	..	..	..	..	..	..	..	..	..
Stillwater, State Prison.....	1	..	..	..	..	..	..	..	..	..	..	..	..
St. Cloud, State Reformatory.....	..	..	..	..	..	..	..	..	..	..	..	..	..
Red Wing, State Training School.....	..	..	..	..	..	..	..	..	..	..	..	..	..
Minneapolis, Soldiers' Home.....	3	..	..	1	..	..	..	..	..	..	..	..	..
Totals	33	12	..	4	1	..	..	..	..	..	..	1	..

REPORTED FROM 72 CITIES HAVING A POPULATION OF 1,000 OR UPWARDS
FOR THE MONTH OF JANUARY, 1909

CITIES.	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Acute Anterior Polio Myelitis	Typhoid Fever	Diarrheal Diseases of Children	Cancer	Puerperal Septicemia
Albert Lea	4,500	5,657	4	1												1	
Anoka	3,769	4,053	4														
Austin	5,474	6,489	4														
Barnesville	1,326	1,566	0			1											
Bemidji	2,183	3,800	4														
Blue Earth	2,900	3,864	3														
Brainerd	7,524	8,117	4														
Chaska	2,165	2,085	4														
Chatfield	1,426	1,300	2														
Cloquet	3,074	6,117	3					1								1	
Crookston	5,359	6,794	7	1	1												
Detroit	2,060	2,149	2													1	
Duluth	52,968	64,942	74	10	2	11		1	4					2	2	3	1
East Grand Forks	2,077	2,481	4	1													
Ely	3,712	4,045	2														
Eveleth	2,752	5,332	4			1											
Faribault	7,868	8,279	6														
Fairmont	3,440	2,955	6	2				1									
Fergus Falls	6,072	6,692	5	1													
Granite Falls	1,214	1,340	1														
Hastings	3,811	3,810	1														
Hutchinson	2,495	2,489	1														
Jordan	1,270	1,311	3														
Lake City	2,744	2,877	3			2										1	
Litchfield	2,280	2,415	4	2													
Little Falls	5,774	5,856	7			1		1									
Luverne	2,223	2,272	0														
Le Sueur	1,937	1,842	1														
Madison	1,336	1,604	1														
Mankato	10,559	10,996	12	2		1	1	1								1	
Marshall	2,088	2,243	1														
Melrose	1,768	2,151	3	2												1	
Minneapolis	202,718	261,974	250	19	1	31	2	14	3					13	11	10	2
Montgomery	979	1,281	2								1						
Montevidéo	2,146	2,595	3	1												1	
Moorhead	3,730	4,794	6			1										1	
Morris	1,934	2,003	3														
New Prague	1,228	1,419	6	1												1	
New Ulm	5,403	5,720	4	1													
Northfield	3,210	3,438	4	1		1										1	
Ortonville	1,247	1,612	2														
Owatonna	5,561	5,651	6					1								1	
Pipestone	2,536	2,885	4													1	
Red Lake Falls	1,885	1,797	1														
Red Wing	7,525	8,149	10	1											1	2	
Redwood Falls	1,661	1,806	3	1													
Renville	1,075	1,229	2			1											
Rochester	6,843	7,233	21	2	1										2	4	
Rushford	1,100	1,133	0														
St. Charles	1,304	1,238	1			1											
St. Cloud	8,663	9,422	11													3	
St. James	2,607	2,320	2					1									
St. Paul	163,632	197,323	228	18	5	26	1	12	6	3		1	1	1	6	21	
St. Peter	4,302	4,514	3			1	1										
Sauk Centre	2,220	2,463	1	1													
Shakopee	2,046	2,069	3	1												1	
Sleepy Eye	2,046	2,312	2													1	
South St. Paul	2,322	3,458	4						2								
Stillwater	12,318	12,435	7	2	1												
Thief River Falls	1,819	3,502	6	1												1	
Tower	1,366	1,340	0														
Tracy	1,911	2,015	1														
Virginia	2,962	6,056	11			1									1		
Wabasha	2,528	2,619	7														
Warren	1,276	1,640	3					1									
Waseca	3,103	2,838	7	1													
Waterville	1,260	1,383	0														
West St. Paul	1,830	2,100	2														
Willmar	3,409	4,040	2			1											
Windom	1,944	1,884	1														
Winona	19,714	20,334	25	1		2			3							1	
Worthington	2,386	2,276	4					1									1

*No report received. Health officer not doing his duty.

REPORTED FROM 65 VILLAGES HAVING A POPULATION OF 1,000 OR UPWARDS
FOR THE MONTH OF JANUARY, 1909

VILLAGES.	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Acute Anterior Polio Myelitis	Typhoid Fever	Diarrheal Diseases of Children	Cancer	Puerperal Septicemia
Ada	1,253	1,515	2			1											
Adrian	1,258	1,184	0														
Aitkin	1,719	1,896	1														
Akeley		1,636	1														
Alexandria	2,681	3,051	4			1											
Appleton	1,184	1,321	1														
Belle Plaine	1,121	1,301	1														
Benson	1,525	1,766	2														
Breckenridge	1,282	1,850	3														
Buffalo	1,040	1,124	3			1											
Caledonia	1,175	1,405	2														
Canby	1,100	1,505	1			2											
Cannon Falls	1,239	1,460	1														
Cass Lake	546	1,062	3			1											
Chisholm		4,231	3						1								1
Dawson	962	1,056	0			1											
Delano	967	1,023	0														
Fosston	864	1,000	2		1												
Frazee	1,000	1,146	1		1												
Glencoe	1,780	1,805	3														
Glenwood	1,116	1,718	1														
Graceville		856	1														
Grand Rapids	1,428	2,055	1														
Hallock	805	1,014	1			1											
Hibbing	2,481	6,566	18		1	4											
Jackson	1,756	1,776	0									1					1
Janesville	1,254	1,205	1														
Kasson	1,112	1,049	0														
Kenyon	1,202	1,252	1														
Lake Crystal	1,215	1,231	0														
Lanesboro	1,102	1,041	0														
Long Prairie	1,385	1,256	0														
Madelia	1,272	1,290	0														
Milaca	1,204	1,319	1														
Mountain Lake	959	1,063	0														
North Mankato	939	1,129	1			1											
North St. Paul	1,110	1,400	2														
Olivia	970	1,019	0														
Osakis	917	1,056	3		2												1
Park Rapids	1,313	1,719	2			2											
Pelican Rapids	1,033	1,095	1														
Perham	1,182	1,366	1														
Pine City	993	1,092	3		1												
Plainview	1,038	1,140	3														
Preston	1,278	1,320	0														
Princeton	1,319	1,704	1														
Rush City	987	1,041	1														
Rushford	1,062	1,040	0														
St. Louis Park	1,325	1,491	2														
Sandstone	1,189	1,589	1														
Sauk Rapids	1,391	1,552	1														
Scanlon		1,122	0														
South Stillwater	1,422	1,572	1														
Springfield	1,511	1,546	2														1
Spring Valley	1,770	1,573	1														
Staples	1,504	2,163	1														
Two Harbors	3,278	4,402	8			1											
Wadena	1,520	1,868	0														
Wells	2,017	1,814	1														
West Minneapolis	2,250	2,530	3														
Wheaton	1,132	1,346	1														
White Bear Lake	1,288	1,724	1			1											
Winnebago City	1,816	1,553	2			1											
Winthrop	813	1,031	1														
Zumbrota	1,119	1,129	1														
State Institutions			33	12		4	1								1		
Other parts of State	1,012,328	1,085,886	680	58	9	76	4	16	6	4	1	6	6	5	22	42	4
Total for State	1,751,395	1,979,658	1629	151	20	184	11	51	24	7	2	8	7	28	46	106	7

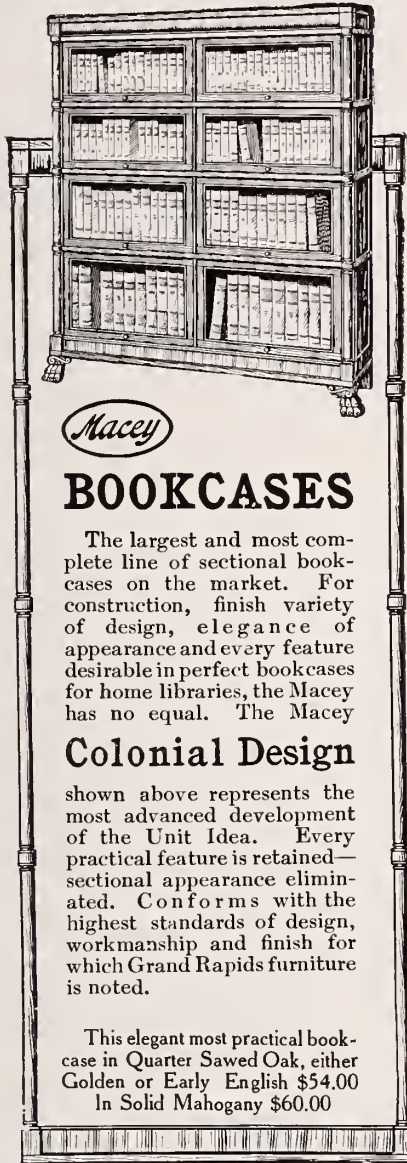
*No report received. Health officer not doing his duty.

173 Still births and premature births, not included in above totals.

PUBLISHER'S DEPARTMENT

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The Otophone is an instrument for the use of deaf persons that is worthy of recommendation. It is manufactured by Meyrowitz, and there is no higher guarantee than this. A special announcement of the instrument is made in our advertising columns, and we heartily advise every physician who has a case of partial deafness to correspond with Mr. Meyrowitz, 604 Nicollet Ave., Minneapolis.

THE THERAPEUTIC UTILITY OF LACTIC FERMENTS

Most of the manufacturers of commercial lactic ferments avoid precise information as to the bacteria used in their tablets, and it might be inferred that only one or two species give rise to lactic acid, whereas a great number are known to have the faculty of producing this acid in the presence of suitable culture media. What

THE JOURNAL OF THE MINNESOTA STATE MEDICAL

then do we look for in a lactic ferment suitable for therapeutic application?

(1) A ferment which is able to run the gauntlet of the gastric juice, and establish itself within the intestine as a part of its flora.

(2) One that will give rise to lactic acid in the intestine in sufficient quantity to control to an appreciable extent the colon bacillus, and restrain undesirable fermentation in the ileum and colon.

Most pathogenic and saprophytic organisms multiply best in an alkaline medium, so that if the intestinal reaction can be rendered acid by lactic acid, we have an excellent means of inhibiting their proliferation in the intestine. This has been taken advantage of not only in the intestinal tract, but also in the vaginal, oral and nasal cavities.

Two of the most powerful lactic acid producers are the streptobacillus and streptococcus lebinis found in the Bulgarian milk ferments, and these have now been isolated and cultivated for several generations in the greatest purity in the Pasteur Institute of Paris. They seem to act well together and to impart to the soured milk (when buttermilk is desired) a sweet, nutty flavor, which is much liked by patients. They have the advantage of retaining their latent activities for a long time when desiccated with milk sugar and may be preserved in the form of a tablet known as Fermentactyl, which is carefully prepared (for physicians' use exclusively) by the Pasteur Vaccine Company of Paris.

Fermentactyl resists a temperature of 50° C., at which most microorganisms cease to proliferate, and continues active even when the amount of lactic acid produced by its action exceeds one per cent, hence this ferment becomes indirectly responsible for the destruction of bacillus typhosus, bacillus subtilis, streptococcus pyogenes aureus, the spirillum of Asiatic cholera, bacillus coli communis, oidium lactis, etc., which are less acid resisting.

Ordinary lactic ferments proliferate with difficulty when the temperature reaches 35° to 36° C. At the temperature of 36° C., such lactic ferments as the bacillus acidiparalactici, streptococcus lacticus, etc., become enfeebled and have little antiputrefactive value in the digestive tube. These ferments, however, exist in fresh milk, and good butter contains the streptococcus lacticus, but it is no longer active and is only able to exist with considerable difficulty in the gastro-intestinal tract on account of the body temperature.

The bacillus subtilis, which renders caseine soluble, cannot develop to any extent in the presence of Fermentactyl, for after the acidity reaches a certain limit, it arrests the action of the caseine ferment.

The streptococcus lebinis multiplies more quickly than the bacillus Bulgaricus or lebinis at temperatures below 35° C., so that in fermenting milk with this ferment, when the temperature rises above this point, it is the streptococcus lebinis which predominates in the soured milk.

The bacillus Bulgaricus (or streptobacillus lebinis) and the streptococcus lebinis are therefore indispensable for the prevention of gastro-intestinal auto-intoxication since they produce as much as 1.5 per cent of lactic acid while the streptococcus lacticus with difficulty yields even 1 per cent.

It may be difficult to prove that the amount of lactic

acid formed by Fermentactyl action within the intestinal tube reaches a percentage sufficient to insure this result, but experiment shows that it discourages the multiplication of the colon bacillus and pathogenic organisms, hence the absorption of their toxins from the intestinal tract is diminished, for the stools become almost odorless, and the urine soon shows mere traces of indican.

Fermentactyl is prepared by a process which ensures the presence of the bacillus Bulgaricus (streptobacillus lebinis) and streptococcus lebinis only. Any other organisms which may be found in the buttermilk made with this ferment, result from accidental contamination in manipulation; nevertheless, owing to these stronger lactic acid forming bacteria, this does not seriously interfere with the value of the sour milk.

The conclusion to draw from this discussion is as follows: Fermentactyl guarantees at all temperatures between 20° and 55°, the predominance of two species of lactic ferments which are really useful from a therapeutic standpoint.

Patients can be easily instructed how to make the buttermilk with Fermentactyl. While this requires some technical knowledge (when a pure culture is required), such as attention to complete sterilization of the milk and keeping a uniform temperature of 45° C. for eight to twelve hours, this is unnecessary for all practical purposes. It suffices, therefore, to advise the patient to crush a tablet and add it to a quart of fresh, unsterilized milk (which thus retains the natural milk ferments), and to keep it in a warm place for twelve to fifteen hours in a corked wide-mouthed bottle. By this time a thick, very pleasant, nutty-flavored acid buttermilk is formed, teeming in useful lactic acid bacteria, while pathogenic and saprophytic bacteria are rapidly killed by the excess of lactic acid formed, leaving few, if any, living organisms besides the useful lactic ferments of Fermentactyl present. It should be remembered, however, that equally good results are obtained by swallowing two tablets of Fermentactyl half an hour after each meal, with a little milk or sugar and water.

By these means auto-intoxication in the intestine is diminished and gradually ceases altogether, the stools soon become odorless, and intestinal gas is prevented. Should there be any tendency to constipation from the buttermilk diet, a one grain triturate of phenol-phthalein may be given after each meal to promote loose stools, since this laxative can be administered indefinitely without danger.

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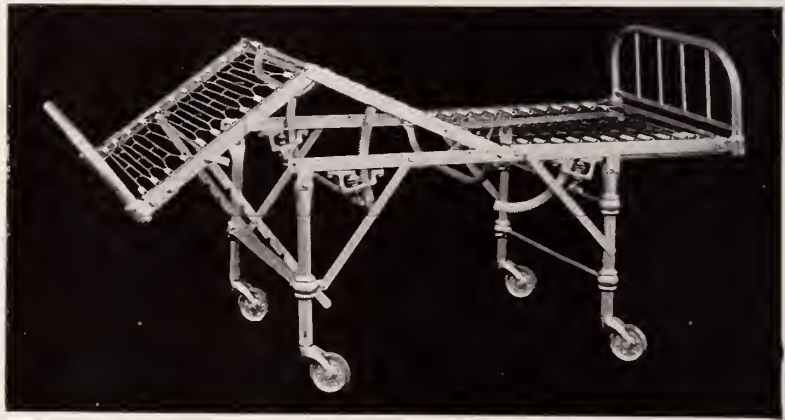
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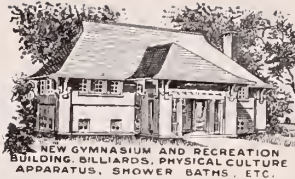
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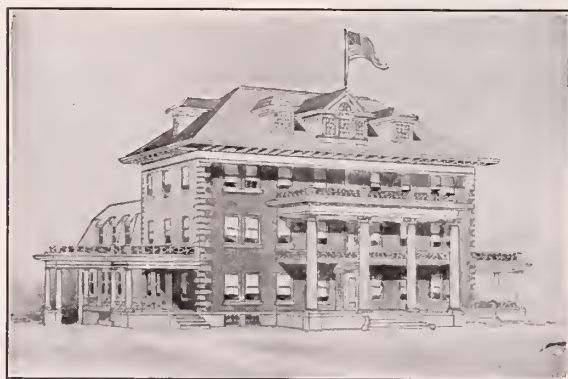
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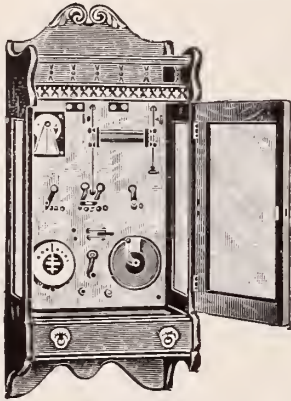
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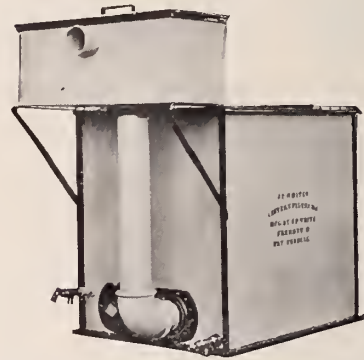
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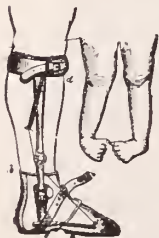
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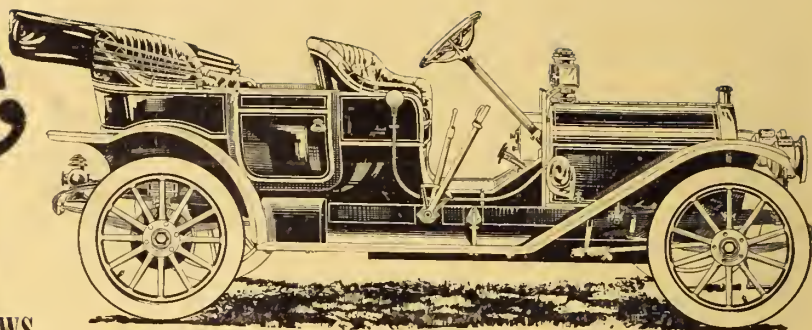
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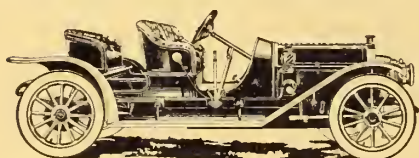


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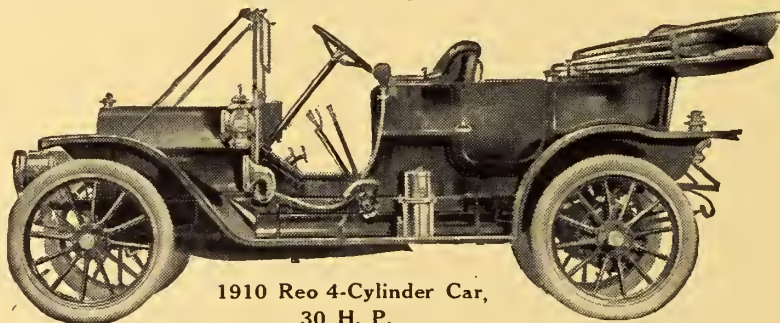
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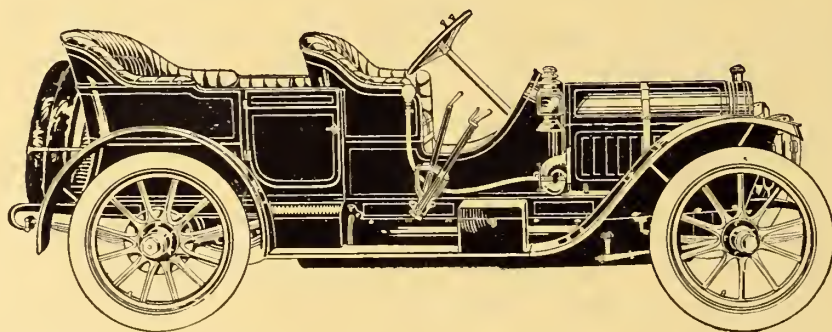
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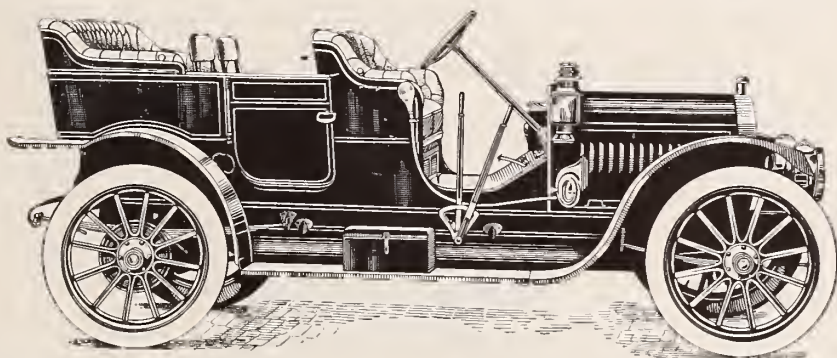
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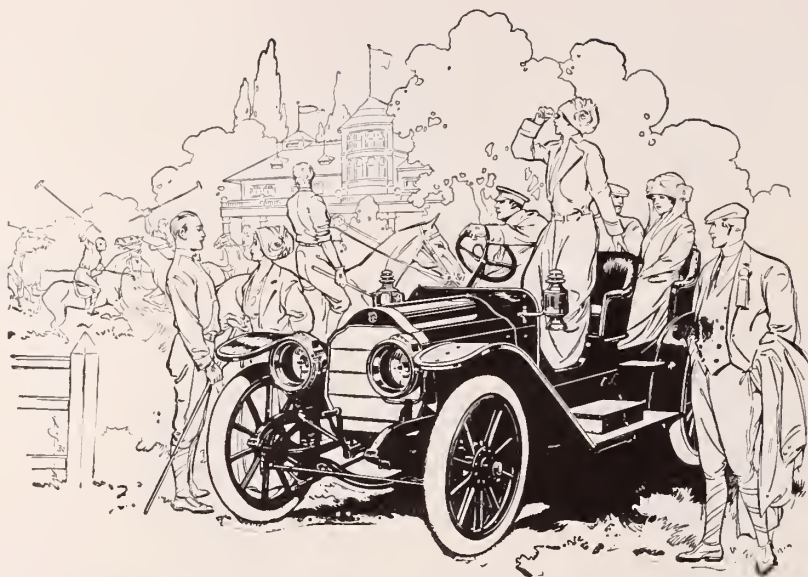
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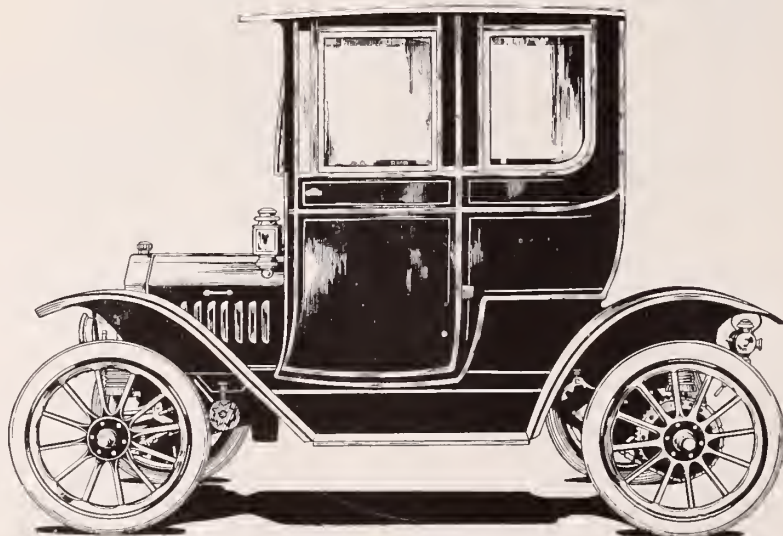
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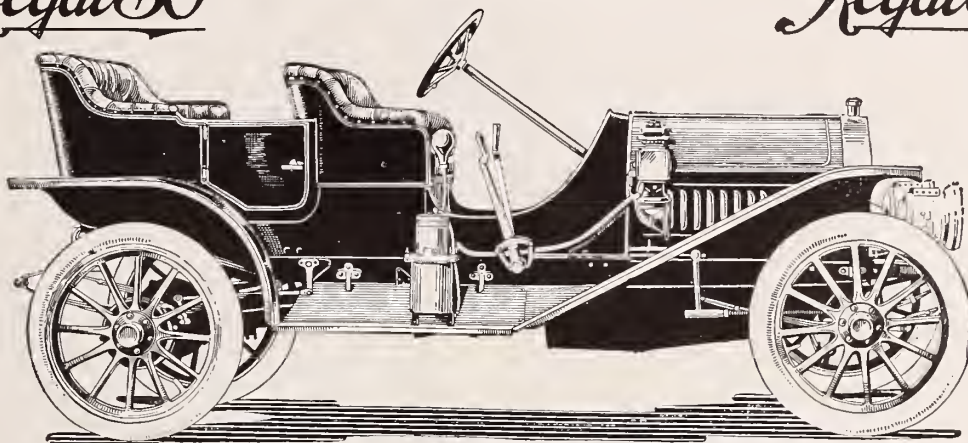
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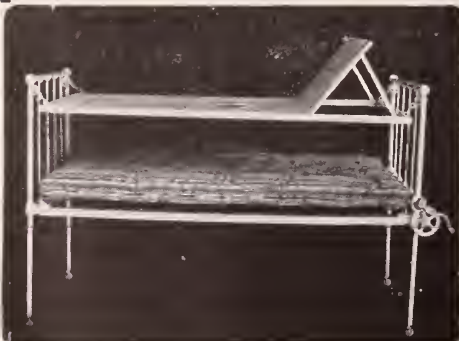
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No. 9

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PROMOTERS IN THE DOCTOR'S OFFICE

This title does not refer to the medical profession directly, but indirectly, and the promoter, as the word is used, refers to an agent and a business entirely different from that of the medical profession.

I am thinking, as I sit here, of the number of men who bring business schemes into the doctor's office or endeavor to sell to the doctor stock of all kinds and in all kinds of schemes. It has been proven, time and time again, that the doctor is an easy-mark when some persuasive talker presents his seductive plan for getting rich in a very short time. Agents for mining companies of

all kinds; agents for all kinds of stocks, which are usually worthless; agents who are representing new inventions; and agents for books that are bound in alluring colors, are the promoters who haunt the doctor's office.

It is hard to estimate the percentage of medical men who buy from these seducers, but, judging from hearsay, the percentage is very large, and the number of returns in dividends or disposal of securities is disgustingly small. Two or three physicians in Minneapolis, who are well up in their profession and are looked upon as aggressive and scientific practitioners, have investments all along the line, from Maine to California, but none of them seem to be rich. They perhaps have many hopes for the future, and are doubtless dreaming of the good times to come when they will live in ease and luxury.

How do these promoters have the nerve to come to doctors who are known to be men of moderate incomes and how can they present their schemes successfully when a banker or a business man would turn them down promptly and emphatically? But history repeats itself every day, and the promoter is just as active today as he was ten years ago, and his schemes and plans and securities are as favorable today as then. That is to say, the general value of his securities is usually at a low financial ebb, and the company or the promoter gets the money while the doctor gets the paper stock.

Professional men are not different from semi-professional men who have neither ears nor eyes for business and who take what is offered them without question, without investigation and without even thinking about what they are doing with their money.

The average man of sense when he is sick goes to his doctor for advice. Why should not the doctor, if he is sensible, go to his banker or

some other equally reliable advisor before he puts his money into unknown places?

Five or six per cent in well-placed investments is really more favorable than eight or ten per cent promises on unestablished securities, however bright they may appear. Of course some men make money accidentally. Whatever they buy seems to go up, but the average doctor loses when he makes that sort of investment.

The promoters of stock which is to be floated among the public not infrequently represent unstable securities, and if the history of these companies were to be published to the world there would be as much humiliation among medical investors as there is among the poor or moderately poor who are driven in herds to the securities table. The loss of money among people of moderate means and the loans that are secured through glib-tongued promoters cause many a heartache, and very often wipe out savings of a hard-working lifetime. Why any business houses should send their agents into doctors' offices to sell their securities has always been a mystery, but the mystery is gradually clearing, for it appears that the majority of such financial schemes are founded on air-cushions and the first obstacle causes a puncture and deflates the bubble. Ask your banker before you throw your money away.

TYPHOID IN MINNEAPOLIS

An effort has been made by the State Board of Health and the local authorities to ascertain the true situation of the recent outbreak of typhoid in Minneapolis. The executive officer of the State Board of Health sent out, under date of March 17, 1910, about 340 letters, and in reply to these letters 91 physicians reported cases, in the aggregate 279. Eighty-four physicians reported no cases. Consequently about one-half of the letters sent out were unanswered. This is another illustration of how slow physicians are in responding to letters that, either by courtesy or necessity, call for an immediate answer. Of course it is impossible absolutely to rely upon figures, but the city health department, with statistics completed up to April 11th, reported that in January 178 cases were recorded; in February, there were 112 cases; and in March 156, making a total of 446 cases in all. To this may be added a little over 100 cases also on record, but without the date of the first appearance. This will bring the total number of cases reported to the city health department to approximately 550. These returns may contain duplicates, and,

even though the record for March was increased over February, it is of no special significance.

The early spring of this year and the early disappearance of the ice from the river, and the record of the Weather Bureau which shows that the main channel of the Mississippi River was free from ice about March 5th, are more or less important factors in the study of typhoid. The establishment of the hypochlorite method of purification in the latter part of February shows a very rapid reduction in the colon and typhoid bacilli. Evidently, the hypochlorite purification process did not figure as an element in the reduction of typhoid, for the same subsidence in epidemics was noticed in Brainerd as in Minneapolis, and without the use of hypochlorites. This does not militate against the hypochlorite method. The epidemiologist of the State Board of Health believes that the fact has been well established, that the infection from the river water is most serious. This is due to the fact that the sun does not reach the water. From one point of view these figures, showing probably 550 cases of typhoid, including duplication and total cases, is not a fair estimate of the actual condition. If these figures are to be taken as the standard of the number of deaths from typhoid it will bring the death-rate very high. As a matter of fact many of the medical men of the cities do not realize the necessity of reporting typhoid cases, and the result is that more than the number of cases reported have been in the city under the care of physicians, bringing the total number up to about eleven hundred. If this estimate is reasonably accurate, then the death-rate is about normal, somewhere under four per cent.

The health authorities, both city and state, are very anxious that physicians should report all cases of typhoid coming under their observation in order that the question may be studied more carefully. It is very apparent that many medical men need to be educated on sanitary lines, and should be made to realize that the reporting of their cases of preventable disease does not mean a publication of names and residences and other publicities of this kind. The physicians of this city and other cities are again urged to keep this fact in mind, that the reporting of preventable diseases from a vital statistic point of view is very necessary.

THE AMERICAN MEDICAL ASSOCIATION MEETING

The next meeting of the American Medical Association will occur in St. Louis during the

week of June 5th. The first session of the entire Association will be in the morning of Tuesday, June 7th.

St. Louis is a representative and progressive city and will be expected to draw largely from the West and South, and, it is hoped, from the East, although the men in the East are adverse to travel if they are going to be inconvenienced in any way by weather or other discomforts.

The hotels in St. Louis are ample for all who may register, and it is well known that all people who live in St. Louis live well.

The committee on arrangement have been very busy and have practically finished their work, at least everything is in readiness for the reception of the Association.

One of the interesting events which will doubtless attract a good many, if the "grape vine" communications are worthy of consideration, is the meeting of the House of Delegates. All through the year the opponents of Dr. Simmons have been making disturbances wherever it has been possible to create sentiment. They undoubtedly will go into the House of Delegates with the firm resolve that they will break up or disorganize the Association. None of the officers or trustees of the Association are losing any sleep over the matter, and there is no reason why they should feel any anxiety under the circumstances.

The meeting of the House of Delegates will be an interesting one to those who enjoy friction, squabbling, and a lack of harmony. It is to be hoped, however, that the House of Delegates will see their way clear to transact their business in the usual dignified manner.

The programs for the various Sections are to be published in the Journal of the American Medical Association in the first number in May, and will undoubtedly present the same interesting features that have been adhered to for years.

It is timely again to suggest that those who go to St. Louis should engage their accommodations beforehand, and thus save trouble and disappointment.

THE ST. LOUIS MEETING AND A SPECIAL TRAIN

If the Northwest is to send to the St. Louis meeting a delegation at all worthy the profession, a good many railway seats and berths will be needed, and it is quite possible that not a few doctors will be disappointed in the accommodations they will be able to obtain unless they send their reservations to the committee having this

matter in charge, of which Dr. Frank C. Todd, of Minneapolis, is chairman. The trip can be made very delightful, if a large special train can be made up, and the physician who fails to join the party will be greatly disappointed.

CORRESPONDENCE

EXAMINATION FEES, AGAIN

St. Paul, April 20, 1910.

TO THE EDITOR:

The letter from Tracy, published in your April 1st issue, was read by me with much interest. Indeed, it is time the physicians took means to protect themselves against the low fees paid by orders for examinations. It is a disgrace that we have been forced to do the work at low rates by members of our own profession who, in the desire to control the major share of examinations, have listened to the promises of deputies. Only concerted local action can break this up.

The order-blanks, as a rule, are more exacting than regular life insurance ones, and all I can say is, that the order insurance fails to get as good an examination, and their death-rate would be lowered were it better paid for. The better class of physician will either not do the work or, if they do it, they cannot afford to give it the time they would for regular insurance work. Mistakes are unavoidable and, under the circumstances, entirely excusable. Order insurance should carefully weigh this matter and not demand for nothing work that at least should get average pay. I mean this, that they get just what they pay for, and have been getting it for years. Their death-rate, in consequence, must be larger.

Very truly,

C. F. DENNY, M. D.

LODGE EXAMINATIONS: THE FEE QUESTION

Minneapolis, April 13, 1910.

TO THE EDITOR:

In your issue of April 1st, there appeared a communication from Dr. A. D. Hoidale, of Tracy, under the heading "Lodge Examinations: the Fee Question," in which he arraigns the Ancient Order of United Workmen of this state and its officers as advocates of cheap medical examinations, and states specifically that said officers cited instances where examinations were made for the A. O. U. W. by prominent practitioners in Minnesota for the beggarly sum of \$1.00 each, and, to quote literally from Dr. Hoi-

dale's article, "and in some cases, where a large number of examinations are made in a bunch, some physician is so loyal to the order (of the A. O. U. W., I must add) that he will do the work for fifty cents."

Inasmuch as the statements of Dr. Hoidale, concerning the A. O. U. W., are grossly misleading and unjust, and believing that such statements would tend to discredit the A. O. U. W. among medical men unless controverted, I wish, as Grand Medical Examiner of said order, to make the following statements:

First. The constitution of the A. O. U. W. especially provides that the minimum fee for medical examination for entrance into the order be \$2.00.

Second. This fee is paid by the local lodge to the examiner upon presentation of his bill, neither the applicant nor the deputy, if any, having any monetary dealings with the physician whatever, thus eliminating any possible pressure which might be brought to bear upon said examiner for reduction of fees.

Third. As far as the knowledge of this office is concerned, there never have been any examinations made for the A. O. U. W. in this state for less than \$2.00 each, and if they ever have been made for less, it has been without the knowledge or sanction of any of the Grand Lodge officers and against specific instructions given to all Grand Lodge deputies, and if any specific instance can be given or proven, the commission of said examiner would be revoked, as we do not seek or desire examiners who would, by provision or collusion, violate the stipulations of the A. O. U. W. constitution in regard to examination fees.

I enclose a clipping from the A. O. U. W. constitution which distinctly stipulates that \$2.00 shall be such fee.

I also enclose a letter from Judge Willard M. Comstock, of Mankato, our Grand Master Workman, in which he specifically states that he told Dr. Hoidale that we expected our examinations to be made for \$2.00, no more or less, and did not care to have examinations made by any doctor who was inclined to accept less than that amount, and that he (Judge Comstock) believes that Dr. Hoidale has a faulty memory with reference to matters which occurred some six months ago.

Incidentally, we paid Dr. Hoidale \$3.00 apiece for some thirty examinations made by him in Tracy, Minn.

I would like to state, in closing, that I have

no quarrel with Dr. Hoidale on the fee question and that I believe in better fees for life insurance examinations, but have found that most examiners feel that \$2.00, while not a large fee, is still considered a fair fee, considering the comparatively larger number of examinations made for fraternal orders, as compared with the number for old-line companies.

I trust that, in justice to the Ancient Order of United Workmen, you will publish this article as conspicuously as was the communication from Dr. Hoidale.

Respectfully,

JAMES F. BECK,

Grand Medical Examiner of the A. O. U. W.

REPORTS OF SOCIETIES

MINNESOTA ACADEMY OF MEDICINE

The Academy met at the Minnesota Club in St. Paul, Wednesday evening, April 6th.

After dinner Dr. Litzenberg, of Minneapolis, reported a case and showed the specimen of a gall-bladder removed that morning with a large stone intact. He had found that the gall-bladder was infected and non-functioning. The operation was made in a manner the reverse of the usual method, i. e., beginning at the top of the organ and working downward.

Dr. Litzenberg also presented a specimen of a prostate gland removed in its entirety by the suprapubic method. He greatly prefers this method to that by the perineum because of the great proneness to incontinence of urine following the latter method. There is also much less likelihood of hemorrhage by the suprapubic method. The necessity for using a large drainage-tube was emphasized, as large as the finger, and daily washing out, but with strict avoidance of any attempt to pass anything through the urethra.

Dr. John M. Armstrong presented a cretaceous fossil of two vertebrae (probably the third and fourth dorsal) of an animal of the lizard type, the *platecarpus coryphaeus*. The specimen shows ankylosis of the bones on the right side where a rib was attached. This specimen, the Doctor says, extends our pathology back about five million years.

Dr. H. P. Ritchie presented a clinical case of "Elbow-joint Resection, Three Years after Operation." The young man, a switchman, had sustained a crushing compound injury to the elbow. Infection had followed, and the saving

of the arm became a serious question. However, the attempt was made. On the tenth day a severe secondary hemorrhage occurred, and the man came near bleeding to death. Dressing in the semiflexed position was first attempted, but the condition was so severe that he was compelled to dress it straight. The result was that at the end of a month the elbow-joint was absolutely ankylosed. The operation of complete excision was made a short time ago with excellent results. The forearm is capable of practically all its normal movements, including putting the hand to the mouth and to the top of the head; and of ample rotary motion. The strength is considerable, and it is thought that the man can continue his occupation as switchman, including the hand-over-hand climbing of cars.

Dr. Wilcox stated that he believes that operation about the elbow and other joints is indicated, and should be practiced much oftener than we have formerly thought. The protection we enjoy though strict asepsis and antisepsis makes this possible. He cited several cases in his own experience, tending to substantiate this assertion.

Dr. H. A. Tomlinson, of St. Peter, then read a paper entitled "The Relational Pathology of Pneumonia." The subject was discussed by Drs. Wilcox, Rothrock, White, Gillette, and Sneve, and by Dr. Tomlinson in closing.

ARTHUR W. DUNNING, M. D., Secretary.

THE HENNEPIN COUNTY SOCIETY

Stated meeting of the Society was held April 4th, Dr. C. A. Donaldson in the chair and 55 members present.

The Secretary: I move that the Chair appoint a committee of five to investigate the matter of the collection of bills for the members, and that this committee report at the September meeting. Carried.

The Secretary: I wish also to report that the Committee recommends that the Society invite the editors of the daily press to the banquet. I, therefore, move that the editors of the daily press be invited to the banquet to hear Dr. Reed. Carried.

Dr. G. W. Bass reported that the Committee on Necrology had forwarded a copy of the following resolution to the friends of Dr. Petrus Nelson:

Whereas, Dr. Petrus Nelson has been summoned to relinquish his work here to answer a call to a higher and more beautiful life.

Resolved, That in the death of Dr. Nelson the Hennepin County Medical Society has lost an honored member.

Resolved, That we convey to the members of his bereaved family and friends, in their sorrow and affliction, our sincere sympathy.

Resolved, That a copy of these resolutions be spread on the minutes of the Hennepin County Medical Society, and that a copy be forwarded to the family of Dr. Nelson.

G. W. BASS, M. D.

G. DEZIEL, M. D.

A. E. HEDBACK, M. D.

Committee.

IN MEMORIAM

Petrus Hamrin Nelson was born in Sweden, May 26, 1846. He graduated from Hahnemann College, of Chicago, in 1872, and came to Minneapolis the same year and opened an office here.

He had taken a special course and instruction in eye and ear work, and entered his professional career as a specialist in that line, being the first of that specialty to open an office in Minnesota. He was very successful in his work and very highly appreciated by the early residents of Minneapolis. He practiced continually in Minneapolis from 1872 to his death.

In 1892 he opened an office in St. Paul and established his residence there. He served as coroner of Minneapolis for two terms of office.

He married Dr. Alice Keefer, of St. Paul, in 1897. He died March 21, 1910, survived by a wife and two children.

Moved that the report of the Committee on Necrology be accepted and placed on the minutes of the Society. Carried.

The Secretary placed in nomination the name of Dr. Hugo Phillar as a visiting member and moved that Dr. Phillar be elected a visiting member of the Society. Carried.

Dr. R. J. Hill: I want to state that today I received information in regard to one of our members, Dr. Wang, who is down in Texas and in very straightened circumstances. I understand that this matter was taken up by the Society about a year ago and that at that time it was reported that he was not in need, but I understand that now he is in great need. I simply want to state this as it comes to me and leave it to the Society whether or not it shall take any action. We all know that Dr. Wang has been incapacitated for about two years with locomotor ataxia.

The President: This is a very particular mat-

ter to come before us. It has been suggested that our Committee on Necrology be also a committee on sick members. This is before the Society for action in some form.

Dr. Hill: I move that the Society appropriate the sum of \$50 and that the Treasurer be instructed to send that amount to Dr. Wang. Carried.

Dr. J. C. Sessions gave a report of a case of sudden death following the injection of antitoxin.

Dr. F. F. Wesbrook: It has never been my experience to come in contact with any of these cases.

We found out several years ago, perhaps six or seven, through Dr. Theobald Smith, that we might have marked symptoms following the administration of diphtheria antitoxin. He found that certain of his guinea-pigs had respiratory symptoms and died. Since that time the matter has been studied in this country with the object of finding out just what takes place. One sees no effect after the first inoculation, but when ten days have elapsed and a second dose is given, we get a very sudden development of symptoms, and within five to thirty minutes the animal is dead. In any event they die from respiratory failure. They have very labored and apparently painful respiration, and the heart will keep on beating for some little time after they die.

As far as I can see, the history of this case is much like those of the guinea-pigs which follow inoculation of the test-dose. The experiments on dogs are not the same as those on guinea-pigs, and one cannot reason from the animal to man.

The lungs become full and are not emptied. I hope we may hear something of comparative results in other cases. Before going further, I should like to make a very careful study and record of this case because it is important that we do not confuse conditions, and lay to antitoxin such cases as this death, which may have other discernible cause. Then we must ask ourselves how this hypersusceptibility could have been produced. We do not know all about it, and yet we have some very interesting theories about what transpires. Victor Vaughn has been most prolific with theories. He says that by heating any protein matter with a large volume of alkaline alcohol he is able to make two different things, one soluble in alcohol and the other non-soluble. Now, he advances this hypothesis, that the first inoculation produces in the body a ferment, which is stored until it is later

called forth, and this ferment is liberated by the second dose, and the protein is split into toxic and non-toxic parts. He goes on and makes certain comparisons which can be used.

Where these doses are given close together, without waiting any such period as ten days, the second dose liberates this ferment before it collects to any great amount.

Are we going to render our patients susceptible to a later dose of antitoxin throughout their lives? Is there a practical way of avoiding this? If we use Vaughn's theory, there may be by giving smaller doses. If his theory is right, a small dose given should liberate that ferment.

A purification and concentration method is to be desired. In this case, in order to make it complete, there should be established a method by which this patient developed that hypersusceptibility, if that can be done. Such cases should be most carefully recorded, but we should refrain, as far as we can, from drawing deductions. We must not allow the very great uses of diphtheria and other toxins to be discouraged until we have put them to the fullest test.

Dr. H. E. Robertson: Before I proceed to the discussion of the case itself, I would like to give a little more fully some of the pathological conditions that have been found in animals. We perform experiments on animals. We also perform experiments on patients every day. This is an experiment as yet and produces no effect in one case, while in another it would have killed.

In reference to the autopsy of the patient referred to in the paper: the body had been embalmed, and well embalmed, before the autopsy, which made it more difficult to draw definite conclusions.

It is absolutely beyond comprehension that a serum should be so disorganized that in the wink of an eye, as it were, it should render a person dead. We are adverse to drawing conclusions in these cases, although we have about thirty cases of sudden deaths.

It is up to the laboratory people to find something, in their experiments with animals, to prevent this reaction. I suggest, like Dr. Wesbrook, that we study these cases very carefully, as this is an important subject.

Dr. R. J. Hill: I would like to ask if these thirty cases were from prophylactic or curative doses? Prophylactic use of antitoxin I quit some years ago, and for a long time I have waited until the patient had diphtheria and then taken my chances.

Dr. H. E. Staples: Of about twenty-five cases

Dr. Gillette reported, nearly all suffered from hay fever or asthma.

There was a case reported last year from Illinois of a man about thirty years old who had an attack of diphtheria and 2,000 units were used, which caused a very marked collapse. It is well to inquire into the history of bronchial asthma and avoid it.

Dr. A. J. Murdock: A case occurred here in Minneapolis a year ago last September, where antitoxin was administered as a prophylactic to a strong man, and he died in three or four minutes. At the autopsy we found his bronchial tubes full of food from the stomach. I would say, in addition to this, that this man was subject to hay fever and had an attack about two weeks previously.

Dr. M. N. Leland: Dr. Hill has spoken of his not giving antitoxin as a prophylactic. With Dr. Hill, two or three years ago I discarded the use of it for this purpose. I did this because of several unpleasant results. I would like to know whether it is proper for us to continue the use of serums for prophylactic purposes.

Dr. J. C. Sessions: I do not think there is anything I can say, except that I cannot account for this woman having become sensitized to this serum. The whole 500 units was not used. I think the woman made only four or five deep inspirations when it was over.

Dr. A. S. Hamilton read a paper on a plan for the organization of sub-sections in the Society.

Dr. L. M. Crafts: I think Dr. Hamilton's paper is very timely and he outlines a very desirable scheme of arrangement.

At the close of the discussion, if it is not out of place, I would move that some such action be taken. The Society is large, the interest of the men in various directions is increasing, and there might well now be several such sections.

Dr. Hamilton: I think I have nothing in addition to say. I believe this is an important matter and I would like to see something done in connection with it. As far as I can see, there is only one possible objection. The question is, would the organization of these sections detract from the general meetings? I do not think it would. So far as I see that is the only possible objection.

Dr. Crafts: I move that the President appoint a committee of five to arrange a plan for providing for sub-sections, and that the committee be ready to report not later than the September meeting. Carried.

Dr. G. P. Crume: I have seen a case recently which I think might be of interest to report, of a man whose wife came to my office with a four months' old baby regarding eruptions. It was a clear case of pregenital syphilis. At the time I saw it first, the eruption was most marked in the palms of the hands, but there was some eruption on the body. It was quite clear it was syphilitic. The eruption appeared to be fading, and there was nothing very unusual about the eruption.

The mother appeared to be in perfect health, though I have not had an opportunity to examine her carefully. I examined the father that day and asked him if he had had any trouble of that kind. He said about eight years ago he had a venereal sore. Its nature he was not very clear about, but the physician assured him that it was only a local trouble, and he took nothing to cleanse the blood. During the intervening years he smoked, chewed tobacco, and indulged in alcohol, but has had no appearance of syphilis. I could find no evidence of disease upon examination.

It seems that the baby's syphilis was from the father, and yet it is very unusual that the father could have syphilis as this man has, and dissipate as this man had, and have no further symptoms. He is a man of about 27 or 28 years old, and I should say a fairly intelligent man. He was apparently telling the truth, and he had no occasion to lie about it.

I have heretofore been inclined to regard the mothers of syphilitic babies as syphilitic.

Dr. L. M. Crafts: I saw a case a few weeks ago. This was a man, a saloon-keeper, given to alcoholics. He took a turkish bath and after the bath he was weak all over. At the end of three weeks he was only able to walk down stairs with help. The man had been able to talk all right that morning but when we were there he had lost the power of speech above a whisper. He died in about three hours. The total time was about six weeks. I never before saw a case just like this.

The President: I wish to state to the Society that the Committee on papers has some difficulty in getting papers before the Society. We have had to hunt rather vigorously to get papers to present to the Society.

Another matter is the special study. The Committee has arranged for lunch at 12:30, and so far as I know those who have taken advantage have been well satisfied. From one to two is the lecture hour.

Another thing is the banquet, which takes place a week from tonight. With a membership of over 300 we ought not to greet Dr. Reed with any small number. We meet at the Donaldson Tea-Rooms and the tickets are at the desk here.

C. H. BRADLEY, M. D., Secretary.

PARK REGION DISTRICT AND COUNTY SOCIETY

The Society met at Fergus Falls, on April 13th, with seventeen members present. Papers were read as follows: "Fractures of the Skull," by Dr. O. Th. Sherping, Fergus Falls; "Fractures of the Bones of the Trunk," by Dr. W. L. Burnap, Pelican Rapids; "Fractures of the Humerus," by Dr. S. Vinje, Henning; "Fractures of the Neck of the Femur," by Dr. G. T. Haugen, Battle Lake; "Fractures of the Tibia and Fibula," by Dr. L. W. Armstrong, Breckenridge.

The program was very good, and was followed by a banquet at the Grand Hotel. Four new members were elected.

L. A. DAVIS, M. D., Secretary.

MOWER COUNTY SOCIETY

The Society met at Austin, on April 13th, with ten members present. Two papers were read as follows: "Ethics as Applied to Our Society," by Dr. C. C. Leck, Austin; and "Obstetrical Diagnosis," by Dr. F. L. Adair, Minneapolis.

The Society has taken steps to establish a post-graduate study-course and for that purpose intends to meet once a month.

The Mower County Public Health Association has been organized here, its initial purpose being to combat tuberculosis.

The smallpox epidemic here has been routed, and no new cases have been reported for several weeks.

ARTHUR N. COLLINS, M. D., Secretary.

GOODHUE COUNTY ASSOCIATION

The Association met in Red Wing on April 5th, sixteen doctors being present. The committee on The District Tuberculosis Hospital, reported that the matter had been taken up with Rice, Dodge, and Wabasha Counties and that Mr. C. Easton, of the State Tuberculosis Society, was working actively with the committee. It was voted to ask Olmsted County to join the other counties in establishing a district hospital, and Dr. C. E. Gates

was elected a member of the committee to take up the matter with Olmsted County.

After the business session the Society lunched at the St. James. After lunch Dr. Chas. Hill, of Pine Island, read a paper on "Spontaneous Generation and Combustion."

Dr. John F. Fulton, of St. Paul, the guest of the Society, read a paper on, "The Importance of Accuracy in the Measurement of Refraction and the Complete Restoration of Lost Muscular Equilibrium."

Dr. George C. Wellner, Health Officer of Red Wing, gave an address on the "Health Officer."

Dr. C. E. Gates, of Goodhue, gave a paper on "Trichiniasis, with a Report of Seven Cases." Dr. Gates himself had the disease and described his own case.

Dr. J. A. Gates, of Kenyon, gave a paper on "The Physician in Politics." This paper was both amusing and instructive.

Every part on the program was carried out, and every paper enthusiastically discussed.

The next meeting will be held at Goodhue on July 11th.

A. T. CONLEY, M. D., Secretary.

SCOTT-CARVER COUNTY SOCIETY

The Society met at Jordan on March 24th, with five members present.

A clinical case of poliomyelitis was presented by Dr. H. A. Schneider.

The matter of joining the Hennepin County Society was taken under consideration.

Officers were elected as follows: President, Dr. H. A. Schneider; secretary-treasurer, Dr. H. W. Reiter; censors, Dr. W. F. Maertz and Dr. H. A. Schneider; delegate, Dr. H. W. Reiter.

Complaint was made against one Connody of Prior Lake, practicing without a license.

H. W. REITER, M. D., Secretary.

MISCELLANY

INTERNATIONAL COMMISSION ON CONTROL OF TUBERCULOSIS AMONG DOMESTIC ANIMALS

It seems desirable that the public should be given opportunity to know what this Commission is doing, inasmuch as the Commission represents indirectly the Canadian and United States governments, and involves live-stock sanitary control-work of all of the individual states.

The last session held at Detroit was devoted largely to reports. There were present representatives of Canadian and American breeders, Canadian and United States Departments of Agriculture, and American and Canadian veterinarians. The following committees reported: Committee on Education and Legislation, Committee on Location of Tuberculosis in Cattle, Committee on Dissemination of Tuberculosis, and the Committee on Disposition of Tuberculous Cattle.

The Committee on Education and Legislation made a partial report, presenting a critical study of experience of certain states in their efforts to deal with this problem. The purpose of this was to present full information for the Commission concerning mistakes, failures, and comparative successes of communities that have undertaken serious work with tuberculosis.

The Committee on Location of Tuberculosis in Cattle presented their report under such headings as "Provision for Notification," "Location by Tuberculin-test," "Location of Infected Herds through Meat-inspection Service," "Most Important Sources of Animal Tuberculosis."

The Committee on Dissemination of Bovine Tuberculosis presented its study under such headings as "Introduction of Disease into the Herd," "Dissemination by Feeding to Calves," "Dissemination by Contact at Shows," "Dissemination by Placing Healthy Animals in Contaminated Stables," "Dissemination by Transportation of Healthy Animals in Infected Cars," "Dissemination by Pasture Exposure." The discussion on this report gave considerable attention to the problem of tracing back from the killing-floor to the infected farm, with a view to detecting the diseased herds and concentrating control-work as much as possible on diseased herds.

The Committee on Disposition of Tubercular Cattle reported concerning the necessity of accepting tuberculin for diagnosis as a fundamental, the necessity of voluntary co-operation, and the superiority of voluntary co-operation to measures of compulsion. This committee considered the feasibility of the Bang and Ostertag methods of dealing with tubercular herds under American conditions. It also made recommendations concerning the relation of indemnity to final disposition of carcass, the principle of carcass salvage, the obligatory disposal of all clinical cases, and a

study of the conditions which should determine the disposition of re-acting cattle.

A very considerable amount of discussion on this report was given to the question of remuneration for owners, and particularly as to whether this should be regarded as a temporary or as a permanent provision in tuberculosis control-work. A number of members held that it must necessarily be considered as a useful preliminary and temporary measure.

Careful consideration was given to the possibility of making either the Ostertag or Bang method of dealing with tuberculosis in the herd, or a combination of the two, feasible in America and Canada for grade herds. This is along the line of finding some method more economical than slaughter for as many herds as possible.

The next meeting of this International Commission will be held in Ottawa.

H. M. REYNOLDS, Secretary.

BOOK NOTICES

PROGRESSIVE MEDICINE. A Quarterly Digest of the Advances, Discoveries, and Improvements in the Medical and Surgical Sciences. Edited by Hobart A. Hare. Lea & Febiger, Philadelphia and New York, March, 1910.

In this day of superabundance of medical literature some such means of keeping up with the times as this publication offers, is absolutely essential. Even glancing hastily over the important articles in the medical journals is quite impossible for the ordinary busy man. The present volume covers the following subjects: surgery of the brain, neck and head; infectious diseases; diseases of children; rhinology, laryngology, and otology. All are satisfactorily treated.

The number starts out with an excellent article on brain surgery. Its attitude is not altogether enthusiastic in reference to operative interference, but the author speaks especially of the good results of decompression in the subtentorial growths. In basal hemorrhage, operation is advised only in selected cases, and this includes, by no means, the majority. Diseases of the thymus, thyroid, and parathyroid receive extended notice, as does also tuberculosis. In the discussion, the various tuberculin-tests employed in diagnosis are given. The recent Wassermann serum reaction is given, and the late

literature of poliomyelitis is carefully considered.

As a review of the more prominent contributions to literature the publication is very satisfactory.

MEDICAL DIAGNOSIS. A Manual for Students and Practitioners. By Charles Lyman Greene, M. D., of St. Paul. Third Edition, revised, illustrated. Philadelphia, P. Blakiston's Son & Co., 1910.

The addition of some forty pages has been found necessary to incorporate into this edition the necessary new matter. Several useful illustrations are included in the new part and many improvements have been made in the text by the breaking up of long paragraphs and the re-arrangement of side-heads.

Although much better than in the first edition, the proof-reading is still inexcusably bad. It would be hard to find another book of its class so badly printed. This is all the more to be regretted because the clearness of its style, the general excellence of its language, and, above all, its high quality from the standpoint of medical science, make this the most important work that has been produced by any physician of the Northwest.

NUTRITION AND DIETETICS. A Manual for Students of Medicine, for Trained Nurses, and for Dietitians in Hospitals and other Institutions. By Winfield S. Hall, Ph. D., M. D., Professor of Physiology, Northwestern University Medical School. D. Appleton and Company, 1910.

As the title indicates, this work is not prepared primarily for physicians. This, of course, gives it a peculiar stamp. It requires that it should be more simply written, and that difficult terminology and abstruse theories should be avoided. It is, nevertheless, not too elementary to be of value to the medical profession.

The discussion is divided into four parts. Part one is on foods; part two, on the use of foods in the body; part three, diet in health; and part four, diet in disease.

Part one, on foods, discusses the needs of the body, "natural foods," various foods, and their preparation.

The style of the book and the manner of treatment, may be judged from the following which is quoted from the discussion upon vegetarianism: "A purely vegetable diet is used by certain tribes in tropical regions and by certain religious votaries and faddists in subtropical regions. If properly selected, it is quite easy to

arrange such a diet so that all of the needs of the body will be amply provided for. However, human experience seems to show that the purely vegetarian diet does not produce a people who possess the highest physical, intellectual, and moral qualities. The world's history does not show that a nation of vegetarians ever reached a high degree of civilization and maintained it for any appreciable length of time. That such is the case, however, must not be assumed to demonstrate that the reason for this is to be found in the diet. Perhaps that is only incidental. Vegetarian races have been tropical people. Their failure to reach and maintain the highest civilization may easily have been the result of the influence of the tropical climate."

The statement in regard to meat preparations, "that these preparations contain practically no nourishment, the total proteid matter available being, as a rule, about one-half of one per cent," cannot be repeated too often.

The following statement, in regard to food preservation, is of interest just now when we are hearing so much fanatical talk about cold-storage: "This cold-storage process facilitates a distribution of food products usually marketed in a season of limited length over a very much longer period of time, thus in a large measure equalizing the price of the food through the year."

The "two great laws of hygiene" are formulated as follows: "First, eat only when prompted by appetite. Second, chew the food and mix it with saliva until it has been reduced to an impalpably fine state, etc."

From the above, it is evident that the body of the work is a clear and not too technical discussion of the subject, admirably fitted to those to whom it is addressed.

The chapters on infant-feeding in health and disease, by Brennemann, are of especial value and give the book a unique position in American literature. The reviewer knows of no other work, in English, in which the modern ideas on infant dietetics, especially those of Heubner, Czerny and Finkelstein are so systematically and clearly, though concisely, set forth. The following quotation will illustrate best the ideas advanced: "The pessimism about increasing inability of mothers to nurse their babies is not entirely well founded." "The only sure stimulant to milk secretion is the regular thorough emptying of the breast."

The calorimetric principle in infant-feeding, Czerny's valuable contribution on fat-feeding,

and Finkelstein's alimentary intoxication, are clearly set forth.

There is an appendix containing recipes and one giving directions for experimental work on chemistry of digestion.

The work is one that may be highly recommended to those to whom it is addressed, and that part which discusses infant-feeding will be found, by those who are not thoroughly conversant with the German literature, to be full of new matter of great and practical value.

NEWS ITEMS

Dr. R. J. Sewall is building a hospital at Cuyuna.

Dr. A. Anderson, of Sioux City, Iowa, has located at Tracy.

Dr. H. C. Cooney, of Princeton, is seriously ill with septicemia.

Dr. A. H. Ludemann has moved from Buffalo to St. Michaels.

Dr. Harold Rees, of Granite Falls, will locate on the Pacific coast.

Dr. B. C. Knudsen has moved from Tyler, Minn., to Clinton, Ia.

Dr. W. J. Mayo, of Rochester, has returned from a short pleasure trip to Italy.

Dr. G. P. Shepard has moved from Gackle, N. D., to Courtenay, in the same state.

The North Dakota State Medical Association meets in Grand Forks on the 10th and 11th inst.

Dr. N. L. Linneman, of Duluth, has gone to Vienna for an extended course of post-graduate work.

Dr. J. S. Tyler, of Eagle Bend, was married last month to Miss Clara May Monroe, also of Eagle Bend.

Dr. Ralph C. Adams, of Bird Island, was married last month to Miss Hertha Baarsch, of the same place.

Dr. Iver S. Benson, of Jackson, has opened a private hospital, naming the same The Southern Minnesota Hospital.

Dr. W. A. Mellenthin has moved from Janesville to Minneapolis, and has offices at 330 Auditorium Building.

Dr. Albert E. Aherns, of St. Paul, has gone to

Vienna for post-graduate work in surgery. He will be absent several months.

Dr. M. A. Burns, of Milan, is talking of building a hospital, and will do so if the citizens will provide for a small part of the cost.

Dr. F. F. Clark, of Duluth, who has been doing post-graduate work in Chicago, for the past four months, has returned to his work.

Dr. C. A. Lester, formerly of Wabasha, now located at Alexandria, has formed a partnership with Dr. F. L. Kling, of the latter place.

Work has been begun on the new addition to St. Mary's Hospital of Duluth. A children's ward will be provided for at the new addition.

The Minneapolis, St. Paul, and Sault Ste Marie Surgical Association will hold its next annual meeting in St. Paul on November 16th and 17th.

The twentieth annual banquet of the Nu Sigma Nu Medical Society of the State University was given on April 9th, at the Minnesota Club, St. Paul.

Dr. S. P. Seaberg, who has been practicing for some time at North Yakima, Wash., has returned to Minnesota, and is now located at South Haven.

The Goodhue County Medical Society has started a movement to obtain a tuberculosis sanitarium for Goodhue, Dodge, Rice, Wabasha, and Olmsted Counties.

Tag Day at Bemidji, followed by a charity ball, netted the handsome sum of \$700 for St. Anthony Hospital of that city. It shows the generous response the public always makes to calls of this character.

Dr. H. D. Newkirk, who has been doing post-graduate work in the East during the winter, has located in Minneapolis, with offices in the Donaldson Building. He will confine his work to children's diseases.

Dr. G. W. Kirmse, late of Minneapolis, has formed a partnership with Dr. E. R. Barton, of Frazee, under the firm name of Drs. Barton and Kirmse. The firm will have charge of the hospital recently built by Dr. Barton.

Dr. C. B. Mallery, of Aberdeen, S. D., died last month at the age of 45. Dr. Mallery was one of the leading physicians of the state, and took an active part in the work of his profession both locally and in the state. He was highly esteemed as a gentleman and a citizen.

The announcement in our last issue that Dr. W. P. Lee had located in Minneapolis was an error. Dr. Lee has spent most of the winter in Minneapolis doing hospital and post-graduate work, and will go to Chicago this month to continue his studies. He is still located at Fairfax.

The annual meeting of the Trail and Steele (N. D.) County Society was held last month at Hillsboro, N. D. Officers were elected as follows: President, Dr. E. White, Mayville; vice-president, Dr. A. Anderson, Hillsboro; secretary and treasurer, Dr. H. Rogers, Portland; delegate, Dr. A. C. Haagensen, Hillsboro.

The Norwegian Lutheran Deaconess' Hospital, of Minneapolis, recently dedicated its new building, which cost about \$90,000. The following members constitute the staff: Chief of Staff, Dr. Jakob Hvorslef; Medicine,—Drs. A. G. Wethall, T. H. Thoresen, Reuben Petersen, A. C. Tingdale, G. L. Hagen and C. M. Roan; Surgery,—Drs. Jakob Hvorslef, Ivar Sivertsen and P. A. Aurness; Obstetrics,—Drs. M. J. Jensen and O. E. Krogstad; Eyes and Ear,—Dr. H. Nissen; Nose and Throat,—Dr. O. H. Bakke; Nervous and Mental Diseases,—Drs. W. A. Jones and A. E. Loberg; Children's Diseases,—Dr. Oscar Owre.

The University of Minnesota has appointed Dr. Thomas G. Lee, Director of the Institute of Anatomy, as its delegate to the Second International Anatomical Congress, Brussels, August 7-11, and to the Eighth International Zoological Congress, Graz, Austria, August 15-20. Dr. Lee will read papers at each of these Congresses. Dr. Lee sailed on April 9th and will spend the next few months on an official visit for the University to the laboratories of the principal universities in England, Holland, Belgium, France, Switzerland, Germany, Norway, Sweden, Italy, and Austria, to secure data of interest in the construction of the building for the new Institute of Anatomy about to be erected at the University at a cost of \$200,000.

CHEAPER ANTITOXIN FOR THE POOR

The Minnesota State Board of Health takes pleasure in announcing that the price of the Lederle antitoxin, which can be secured through the various antitoxin stations throughout the state, is still further reduced. After May 1st the prices will be as follows: 1,000 units 50 cts; 3,000 units, \$1.35; 5,000 units, \$2.00.

It is hoped that physicians will take advantage of this antitoxin for use among the poor.

POSITION WANTED

A physician and surgeon desires a place as locum tenens or as an assistant to a surgeon or specialist; speaks German, and has had hospital and general experience. Address M. M., care of this office.

FOR SALE

Complete office and reception-room fixtures for sale to doctor who will succeed me. Price, \$400 cash. Field is ample; only one other doctor in town, near Twin Cities. Excellent opportunity. Address G. B., care of this office.

FOR SALE

A \$2,000 unopposed practice in southern Minnesota, ten miles from nearest doctor; fine farming country; collections 95 per cent. Practice and outfit, which includes team, buggy and cutter, \$700. Address B. R., care of this office.

FOR SALE

A \$3,000 practice in western Minnesota goes to purchaser of office equipment, complete, for \$400. No property to buy. Collections unusually good. Best location for a Scandinavian. Address B. L., care of this office.

WANTED

Man to take practice paying from 18 to 25 hundred yearly. New country; future prospects very bright. Will make terms to suit. An extremely desirable location for young man who can stand driving. Must be ready to take the place not later than June 1st. Address B. P., care of this office.

FOR SALE

A \$5,000 practice in central-western Minnesota. No opposition of any importance; in thriving village of 800 surrounded by a farming and dairy country; large territory; country well settled with Scandinavians; collections good. Will sell practice and good-will alone, or other property; anything to satisfy buyer. Have practiced here 11 years. On main line of R. R.; 8 passenger trains a day. Best of references. Reason for selling: must move out to West coast on account of family's health. Will introduce purchaser. Address H. H., care of this office.

FOR SALE

Physician's office furniture, instruments, and good medical library, and other things necessary to a physician. A good location for a young doctor in a suburb of the Twin Cities. Sale made necessary by death of physician. Address M. S., care of this office.

FOR SALE

A practice established 23 years and paying between \$3,000 and \$4,000. The good-will goes to the purchaser of my property at \$4,500. Cash \$2,500 and balance in 1, 2, 3, and 4 years without interest. Located in a village of 600 in South-central Minnesota. Address F. G., care of this office.

FOR SALE

Mitchell Model H runabout, 4 cyl., 24 h. p., with full equipment, including top, Prestolite tank, gas lamps, and speedometer. Used only one year and guaranteed in perfect condition. Will sell at a bargain. Increase in family; must have a two-seated rig. Snap for some one. Address Dr. T. W. Hovorka, Glencoe, Minn.

Minnesota State Medical Association

DISTRICT AND COUNTY ROSTER

APRIL, 1910

FIRST DISTRICT

COUNCILOR (vacant)

Clay-Becker County Medical Society

Regular meetings, last Monday in January, April, July, and October

Annual meeting in January

PRESIDENT
Hagen, Ole J. Moorhead
SECRETARY
Barton, E. R. Frazee
Aborn, W. H. Brainerd
Adkins, C. M. Ogema
Alexander, F. H. Barnesville
Awty, W. J. Moorhead
Bloom, C. J. Lake Park

Carman, J. B. Detroit
Carman, J. E. Detroit
Darrow, Daniel C. Moorhead
Estrem, C. O. Detroit
Frasier, G. W. Detroit
Heimark, O. E. Hawley
Hoit, Edward E. Detroit
Humphrey, E. W. Moorhead
Jones, S. S. Frazee
Kaess, A. J. Fargo, N. D.

Kierland, P. E. Mahnomen
Kirmse, G. W. Frazee
Lowe, L. M. Glyndon
Meighen, J. W. Ulen
Ogden, Emma K. Detroit
Richards, Polk. White Earth
Smith, M. B. Lake Park
Smith, S. W. Henry, S. D.
Verne, V. E. Moorhead
Weeks, L. C. Detroit

Park Region District and County Medical Society

Wilkins, Otter Tail, Douglas, and Grant Counties

Regular meetings, second Wednesday in January, April, July, and October

Annual meeting in January

PRESIDENT
Vigen, J. G. Fergus Falls
SECRETARY
Davis, L. A. Dalton
Armstrong, L. W. Breckenridge
Baker, A. C. Fergus Falls
Berthold, J. L. Perham
Black, William. Parkers Prairie
Brabec, F. J. Perham
Burnap, W. L. Pelican Rapids

Cooper, D. J. Dent
Engstrom, F. A. Battle Lake
Esser, John. Perham
Freeborn, J. A. Fergus Falls
Gilkinson, A. J. Osakis
Hand, W. R. Wendell
Haskell, A. D. Alexandria
Haugan, O. M. Fergus Falls
Haugen, G. T. Battle Lake
Hoffman, J. L. Elbow Lake
Kittleson, T. N. Fergus Falls
Lyng, John. Alexandria

McCoy, J. E. Henning
McLean, T. N. Fergus Falls
Magnusson, Herman V. Aitkin
Mathlesen, G. B. Evansville
Meckstroth, C. W. Brandon
Muus, Peter H. Albert Lea
Powers, F. W. Barrett
Randall, A. M. Ashby
Serkland, J. C. Rothsay
Sherping, O. Th. Fergus Falls
Vinje, Syver. Hennling

Red River Valley Medical Society

Polk, Marshall, Kittson, Roseau, and Norman Counties

Regular meetings, first Tuesday in the fourth week of every third month.

Annual meeting in January

PRESIDENT
Bratrud, Theodore. Warren
SECRETARY
Nelson, H. E. Crookston
Anderson, W. S. Warren
Arneson, Thomas. Kennedy
Bertelson, O. L. Crookston
Boeckman, M. Thief River Falls
Dampier, C. E. Crookston
Dunlop, A. H. Crookston

Gambell, F. H. Thief River Falls
Hansen, Marius. Hendrum
Heimark, J. H. Gary
Hendrickson, J. F. Fertile
Hodgson, H. H. Crookston
Holte, H. Crookston
Kjelland, J. S. Crookston
Lemieux, Israel. Red Lake Falls
Levin, H. E. Erskine
Melby, O. F. Thief River Falls
Morley, G. A. Crookston
Norman, J. F. Crookston

Olson, O. H. Erskine
Randolph, Wilson. Crookston
Risjord, J. N. Fertile
Shaleen, A. W. Hallock
Smith, H. W. Crookston
Smith, Norman M. Crookston
Stuhr, H. C. Argyle
Swanson, Cephas. St. Hilaire
Swedenburg, W. A. Thief River Falls
Watson, N. M. Red Lake Falls
Wattam, G. S. Warren
Wilkinson, J. C. Red Lake Falls

West Central Minnesota Medical Society

Pope, Stevens, Traverse, and Big Stone Counties

Regular meetings, second Wednesday in January, April, July, and October

Annual meeting in January

PRESIDENT
Oliver, C. I. Graceville
SECRETARY
Hulburt, H. L. Morris
Bolsta, Charles. Ortonville
Caine, C. E. Morris

Christenson, C. R. Starbuck
Eberlin, E. A. Glenwood
Ewing, C. F. Wheaton
Fjelstad, C. A. Glenwood
Fleming, A. S. Wheaton
Gibbon, L. L. Lowry
Karn, B. R. Ortonville
Karn, J. Ortonville

Leland, J. T. Herman
Leuty, Amos. Morris
Linde, Herman. Cyrus
Randall, B. M. Graceville
Ransom, L. M. Hancock
Weir, J. D. Beardsley
Whittemore, J. G. Donnelly

SECOND DISTRICT

COUNCILOR, J. G. MILLSPAUGH.....Little Falls

Aitkin County Medical Society

Regular meetings, first Tuesday in each month

Annual meeting in October

PRESIDENT
Graves, CarltonAitkin
SECRETARY
Magnusson, G. A.....Aitkin

Catlin, T. J.....Waukenabo
George, James W.....Minneapolis

Kelly, B. W.....Aitkin
Ratcliffe, J. J.....Aitkin

Upper Mississippi Medical Society

Aitkin, Beltrami, Cass, Crow Wing, Hubbard, Morrison, Todd, and Wadena Counties

Regular meetings, first Tuesday in January, April, July, and October

Annual meeting in January

PRESIDENT
Knickerbocker, Frank H....Staples
SECRETARY
Lowthian, G. H.....Akeley
Batcheller, Oliver T.....Brainerd
Beise, R. A.....Brainerd
Christie, George R....Long Prairie
Corrigan, J. E.....Spoonerville
Coulter, Charles F.....Wadena
Courtney, WalterBrainerd

Desmond, M. A.....Akeley
Fortier, E. L.....Little Falls
Gilmore, R. T.....Bemidji
Groves, A. F.....Brainerd
Hall, Elmer E.....Little Falls
Hemstead, W.Brainerd
Holst, C. F.....Little Falls
Holst, J. B.....Little Falls
Ide, A. W.....Brainerd
Johnson, Oscar V.....Sebek
Kenvon, Paul E.....Wadena
Koch, J. C.....Blackduck

Miller, W. A.....New York Mills
Millsbaugh, J. G.....Little Falls
Morell, W. N.....Verndale
Parrott, B. W.....Long Prairie
Reid, WilliamDeer Wood
Reimstad, C. S.....Brainerd
Roberts, L. M.....Little Falls
Thabes, J. A.....Brainerd
Van Valkenberg, B. F., Long Prairie
Watson, Thomas R.....Clarissa
Wilcox, F. L.....Walker
Will, W. W.....Bertha

THIRD DISTRICT

COUNCILOR, J. L. ROTHROCK.....St. Paul

Ramsey County Medical Society

Regular meetings, last Monday of each month

Annual meeting in January

PRESIDENT
Dennis, W. A.....St. Paul
SECRETARY
Leavitt, Frederick E.....St. Paul
Abramovitch, J. H.....St. Paul
Allen, MasonSt. Paul
Armstrong, J. M.....St. Paul
Artz, C. P.....St. Paul
Bacon, Knox.....St. Paul
Bacon, L. C.....St. Paul
Balcome, F. E.....St. Paul
Ball, C. R.....St. Paul
Barsness, Nellie.....St. Paul
Beckley, F. L.....St. Paul
Bennion, P. H.St. Paul
Binder, G. A.....St. Paul
Bock, R.St. Paul
Boeckmann, E.St. Paul
Bohland, E. H.....St. Paul
Boxell, C. E.....St. Paul
Bristol, L. D.....St. Paul
Brooks, D. F.....St. Paul
Brown, E. I.....St. Paul
Brown, J. C.....St. Paul
Brown, S. E.....St. Paul
Buckley, E. W.....St. Paul
Burch, F.St. Paul
Caldwell, D. K.....St. Paul
Campbell, E. P.....St. Paul
Campbell, J. E.....South St. Paul
Cannon, HarrySt. Paul
Carman, Chas. L.....St. Paul
Cavanaugh, J. O.....St. Paul
Chamberlin, J. W.....St. Paul
Charpentier, A. A.....St. Paul
Colvin, A. R.....St. Paul
Comstock, A. E.....St. Paul
Cook, Paul B.....St. Paul
Cuff, W. S.....St. Paul
Dahleen, H. E.....St. Paul
Davis, H. W.....St. Paul
Davis, William.....St. Paul
Denny, C. F.....St. Paul
Dinwoodie, W.St. Paul
Dodge, W. M.....Farmington
Dohm, A. J.....St. Paul
Dohm, C. L.....St. Paul
Drechsler, Herman A.....St. Paul
Dunning, A. W.....St. Paul
Earl, George A.....St. Paul
Earl, R. O.....St. Paul

Eshelby, E. C.....St. Paul
Ferguson, J. C.....St. Paul
Flagg, S. D.....St. Paul
Fosness, Edith G.....St. Paul
Foster, BurnsideSt. Paul
Freeman, CharlesSt. Paul
Fulton, J. F.....St. Paul
Ghent, M. M.....St. Paul
Gilfillan, J. S.....St. Paul
Gillette, A. J.....St. Paul
Goltz, E. V.....St. Paul
Gravelle, J. M. A.....St. Paul
Greene, Charles L.....St. Paul
Hall, A. R.....St. Paul
Hall, CharlotteSt. Paul
Harding, J. C.....St. Paul
Hawkins, V. J.....St. Paul
Heath, A. C.....St. Paul
Henderson, A. Powell River, B. C.
Hensel, Charles N.....St. Paul
Hesselgrave, S. S.....St. Paul
Hilger, D. D.....St. Paul
Hoff, Peder A.....St. Paul
Holcomb, O. W.....St. Paul
Hopkins, Mary P.....St. Paul
Hunt, H. E.....St. Paul
Johnson, Asa M.....St. Paul
Johnson, H. C.....St. Paul
Jones, E. M.....St. Paul
Jones, TalbotSt. Paul
Kane, J. P.....Delano
Kelly, W. D.....St. Paul
Kistler, A. S.....St. Paul
Lankester, HowardSt. Paul
Lemke, G. F.....St. Paul
Lerche, Wm.....St. Paul
Lewis, W. W.....St. Paul
Little, W. J.....St. Paul
Lufkin, H. M.....St. Paul
Lundholm, E. M.....St. Paul
McCord, E. W.....St. Paul
McDavitt, Thos.....St. Paul
McLaren, Jennette M.....St. Paul
Macdonald, AngusSt. Paul
MacLaren, A.....St. Paul
Markoe, J. C.....St. Paul
Maschger, A. P.....St. Paul
Meade, Charles J.....St. Paul
Meyerding, E. A.....St. Paul
Miller, C. T.....St. Paul
Murphy, E. F.....St. Paul
Nelson, J. C.....St. Paul

Nelson, L. A.....St. Paul
Nippert, H. T.....St. Paul
Norton, H. G.....St. Paul
O'Brien, H. J.....St. Paul
O'Connor, J. V.....St. Paul
Ogden, B. H.....St. Paul
Ohage, Justus.....St. Paul
Olander, J. E.....St. Paul
Peterson, V. N.....St. Paul
Pine, A. A.....St. Paul
Pine, O. S.....St. Paul
Plondke, F. J.....St. Paul
Pool, DanielSt. Paul
Putnam, Catherine E.....St. Paul
Quinn, J. A.....St. Paul
Ramaley, L.St. Paul
Ramsey, W. R.....St. Paul
Riggs, C. E.....St. Paul
Ritchie, H. P.....St. Paul
Ritchie, ParksSt. Paul
Robinson, L. S. B.....St. Paul
Rogers, J. T.....St. Paul
Rothchilds, H. J.....St. Paul
Rothrock, J. L.....St. Paul
Roy, Philemon.....St. Paul
Savage, F. J.....St. Paul
Schmidt, F. C.....St. Paul
Schwyzer, ArnoldSt. Paul
Senkler, Geo. E.....St. Paul
Sherper, Myron.....St. Paul
Shimonek, AntonSt. Paul
Smith, C. E.....St. Paul
Smith, C. E. Jr.....St. Paul
Sneve, HaldorSt. Paul
Sohlberg, O.....St. Paul
Stern, MonteSouth St. Paul
Stern, E. G.....St. Paul
Stierle, A. Jr.....St. Paul
Stumm, T. W.....St. Paul
Sweeney, ArthurSt. Paul
Taylor, H. L.....St. Paul
Teisberg, C. B.....St. Paul
Van Slyke, C. A.....St. Paul
Van Slyke, F. W.....St. Paul
Vieregge, J. A.....St. Paul
Welch, M. C.....St. Paul
Whitacre, J. C.....St. Paul
Whitcomb, E. H.....St. Paul
White, J. S.....St. Paul
Williams, C.....St. Paul
Winnick, J. B.....St. Paul
Wood, E. S.....St. Paul

Washington County Medical Society

Regular meetings, second Tuesday in the odd-numbered months

Annual meeting in January

PRESIDENT	Boleyn, E. S. Stillwater	Kalinoff, D. Stillwater
Humphrey, W. R. Stillwater	Burfiend, G. H. Afton	Merrill, B. J. Stillwater
SECRETARY	Clark, T. C. Stillwater	Steen, A. H. Cottage Grove
Landeon, F. G. Stillwater	Freligh, E. O'B. Stillwater	Stevens, F. A. Lake Elmo
	Furber, W. W. Cottage Grove	Wells, E. E. Stillwater
	Haines, J. H. Stillwater	Withrow, M. E. International Falls

Chisago-Pine County Medical Society

Regular meetings, second Tuesday in January, April, July, and October

Annual meeting in October

PRESIDENT	Cowan, D. W. Sandstone	Lindberg, A. C. Finlayson
Zeien, Thos. North Branch	Dredge, H. P. Sandstone	McFachern, W. A. Sandstone
SECRETARY	Ehmke, W. C. Willow River	Murdock, H. G. Taylor's Falls
Anderson, C. A. Rush City	Froehlich, H. W. Hibbing	Tilton, A. J. Harris
	Gray, C. E. Rush City	Werner, O. S. Lindstrom
	Gunz, A. N. Centre City	Wiseman, R. L. Pine City

Central Minnesota District Medical Society

Mille Lacs, Isanti, Sherburne, and Kanabec Counties

Annual meeting in January

PRESIDENT	Caley, G. R. Princeton	Shulean, Nellie Cambridge
Olsen, S. H. Milaca	Cooney, H. C. Princeton	Swennes, O. S. Lawrence
SECRETARY	Garand, J. H. Dayton	Swenson, Charles Braham
Parsons, George E. Elk River	Hixon, R. B. Cambridge	Vrooman, F. E. St. Francis
	Roadman, Ira M. Onamia	

St. Louis County Medical Society

St. Louis, Cook, Lake, Itasca, and Carlton Counties

Regular meetings, second Thursday of each month

Annual meeting in December

PRESIDENT	Drenning, F. C. Duluth	Magie, W. H. Duluth
Graham, R. Duluth	Ekblad, J. W. Duluth	Malmgren, C. V. Virginia
SECRETARY	Eklund, J. J. Duluth	Moir, Wm. M. McKinley
Grawn, F. A. Duluth	Fahey, E. W. Duluth	More, C. W. Eveleth
Abbott, C. U. Aurora	Farmer, J. C. McKinley	Murray, D. D. Duluth
Abbott, Wm. P. Duluth	Fleming, James Cloquet	Nyquist, J. E. Cloquet
Adams, B. S. Hibbing	Gans, E. M. Eveleth	Oredson, O. A. Duluth
Anderson, James C. Duluth	Gillispi, N. H. Duluth	Pare, L. T. Duluth
Anderson, L. N. Duluth	Graham, David Duluth	Parker, O. W. Ely
Ayers, G. T. Ely	Greeley, L. Q. Duluth	Patton, F. J. Duluth
Bagley, W. R. Duluth	Haney, C. I. Duluth	Payette, C. H. Duluth
Barclay, A. Cloquet	Harwood, W. E. Eveleth	Pengelly, Edward J. Hibbing
Barrett, F. Gilbert	Havens, J. G. W. Cloquet	Robinson, J. M. Duluth
Blacklock, S. S. Hibbing	Hirschfield, M. S. Duluth	Rood, D. C. Hibbing
Boyer, S. H. Duluth	Hovde, A. G. Superior, Wis.	Rowe, O. W. Duluth
Braden, A. J. Duluth	Hovde, Hans N. Duluth	Salter, W. H. Duluth
Bray, C. W. Biwabik	Jackola, John Duluth	Schroeder, Charles H. Duluth
Brooks, G. F. Stevenson	Jern, J. H. Duluth	Schulze, A. G. Duluth
Brown, P. F. Eveleth	Johnson, J. V. Eveleth	Schwartz, A. H. Duluth
Brunelle, A. M. Cloquet	Judson, W. E. Duluth	Seashore, D. E. Duluth
Budd, J. D. Two Harbors	Kean, N. D. Coleraine	Shaw, A. W. Buhl
Bullen, F. W. Hibbing	Keyes, C. R. Duluth	Shellman, John L. Nashwauk
Buser, J. R. Biwabik	Knauff, M. K. Two Harbors	Smith, B. A. Biwabik
Butchart, G. N. Hibbing	Kraft, Peter Duluth	Stewart, C. A. Duluth
Carson, J. H. Duluth	Kuth, J. R. Duluth	Stocker, S. M. Duluth
Chapman, T. L. Duluth	Lane, Laura A. Hibbing	Sukeforth, L. A. Duluth
Cheney, E. L. Duluth	Lenont, C. B. Virginia	Taylor, A. C. Duluth
Collins, H. Duluth	Le Pak, Francis J. Duluth	Taylor, C. W. Duluth
Conkey, C. D. Duluth	Linneman, N. L. Vienna, Austria	Tilderquist, D. L. Duluth
Coventry, W. A. Duluth	Lum, C. E. Duluth	Tufty, J. M. O. Duluth
Crowe, J. H. Virginia	Lynam, F. Duluth	Tuohy, E. L. Duluth
Daugherty, E. B. Pine City	McAuliffe, J. Duluth	Walker, A. E. Duluth
Daugherty, L. E. Eveleth	McCabe, W. F. Duluth	Walters, F. R. Moose Lake
Davis, H. S. Duluth	McComb, C. F. Duluth	Watkins, O. S. Carlton
Deslauriers, A. A. Duluth	McCoy, Mary K. Duluth	Weston, J. B. Duluth
Detling, F. E. Duluth	McChen, J. A. Duluth	Weum, T. W. Duluth
	McGiffert, E. N. Duluth	Wilkinson, Stella Duluth

FOURTH DISTRICT

COUNCILOR, F. A. KNIGHTS. Minneapolis

Hennepin County Medical Society

Regular meetings, first Monday in each month, except July and August

Annual meeting in January

PRESIDENT	Abbott, A. W. Minneapolis	Anderson, J. D. Minneapolis
Donaldson, C. A. Minneapolis	Adair, F. L. Minneapolis	Angell, W. A. Minneapolis
SECRETARY	Aldrich, A. G. Minneapolis	Annis, H. B. Minneapolis
Bradley, C. H. Minneapolis	Aling, C. P. Minneapolis	Arey, H. C. Excelsior
	Allen, H. W. Minneapolis	Aspeland, S. J. Minneapolis
	Anderson, A. E. Minneapolis	Aune, Martin. Minneapolis

- Aurand, W. H. Minneapolis
 Aurness, P. A. Minneapolis
 Austin, Edward E. Minneapolis
 Avery, J. Fowler. Minneapolis
 Aylmer, A. L. Minneapolis
 Baier, Florence C. Minneapolis
 Bakke, O. H. Minneapolis
 Barber, J. P. Minneapolis
 Barton, G. C. Minneapolis
 Bass, G. W. Minneapolis
 Baxter, S. H. Minneapolis
 Beachler, G. F. Minneapolis
 Bell, J. W. Minneapolis
 Benjamin, A. E. Minneapolis
 Benson, G. E. Minneapolis
 Bessesen, A. N. Minneapolis
 Eishop, C. W. Minneapolis
 Bissell, Frank S. Minneapolis
 Blake, James Hopkins
 Blomburgh, A. F. Minneapolis
 Bouman, H. A. Minneapolis
 Bracken, H. M. Minneapolis
 Brede, W. G. Minneapolis
 Brown, E. J. Minneapolis
 Brown, K. S. Minneapolis
 Bryant, O. R. Minneapolis
 Butler, John. Minneapolis
 Byrnes, W. J. Minneapolis
 Campbell, R. A. Minneapolis
 Carlaw, C. M. Minneapolis
 Cary, H. E. Minneapolis
 Cates, A. B. Minneapolis
 Chapman, O. S. Minneapolis
 Chowning, Wm. M. Minneapolis
 Cirkler, A. A. Minneapolis
 Cockburn, J. C. Minneapolis
 Cohen, H. A. Minneapolis
 Collins, Herbert O. Minneapolis
 Condit, W. H. Minneapolis
 Corbett, J. F. Minneapolis
 Cosmann, E. O. Minneapolis
 Cowles, D. C. Minneapolis
 Crafts, Leo M. Minneapolis
 Crosby, J. A. Minneapolis
 Cross, Jno. G. Minneapolis
 Crume, Geo. P. Minneapolis
 Day, L. W. Minneapolis
 Dearborn, B. S. Minneapolis
 Deziel, G. Minneapolis
 Disen, C. F. Minneapolis
 Driesbach, N. Minneapolis
 Dunsmoor, F. A. Minneapolis
 Dutton, C. E. Minneapolis
 Egan, John M. Minneapolis
 Eggen, O. K. Minneapolis
 Eitel, Geo. G. Minneapolis
 Erb, Frederick A. Minneapolis
 Erdmann, Chas. A. Minneapolis
 Erickson, J. G. Minneapolis
 Farr, R. E. Minneapolis
 Fifield, Emily W. Minneapolis
 FitzGerald, Don F. Minneapolis
 Foote, Lucius F. Minneapolis
 Franzen, H. G. Minneapolis
 Fryberger, W. O. Minneapolis
 Geist, Emil S. Minneapolis
 Gordon, G. J. Minneapolis
 Gould, J. B. Minneapolis
 Graham, B. F. Minneapolis
 Green, E. K. Minneapolis
 Guilford, H. M. Minneapolis
 Hagen, G. L. Minneapolis
 Haggard, G. D. Minneapolis
 Hall, Pearl M. Minneapolis
 Hall, W. A. Minneapolis
 Hallowell, Wm. H. Minneapolis
 Hamilton, A. S. Minneapolis
 Hanscome, W. C. Minneapolis
 Hare, E. R. Minneapolis
 Harrah, J. W. Minneapolis
 Harrington, C. D. Minneapolis
 Hartzell, Thos. B. Minneapolis
 Haverfield, Addie R. Minneapolis
 Haynes, F. E. Minneapolis
 Head, Geo. D. Minneapolis
 Hedback, A. E. Minneapolis
 Helk, H. H. Minneapolis
 Hennkens, E. J. Minneapolis
 Henry, C. E. Minneapolis
 Higbee, Albert E. Minneapolis
 Higbee, Paul A. Minneapolis
 Higgins, J. H. Minneapolis
 Hill, Eleanor J. Minneapolis
 Hill, R. J. Minneapolis
 Hirschfield, Adolph. Minneapolis
 Hcegh, Knut. Minneapolis
 Hunter, C. H. Minneapolis
 Hutchins, E. A. Minneapolis
 Hvoslef, Jakob. Minneapolis
 Hynes, James Minneapolis
 Hynes, J. E. Minneapolis
 Irvine, H. G. Minneapolis
 Jacobson-Keats, Julia M. Minneapolis
 Hawley, N. D.
 Jensen, M. J. Minneapolis
 Johnson, A. E. Minneapolis
 Johnson, Julius Minneapolis
 Johnson, Nimrod A. Minneapolis
 Jones, Herbert W. Minneapolis
 Jones, W. A. Minneapolis
 Kelly, E. S. Minneapolis
 Kennedy, Jane F. Minneapolis
 Kerrick, Stanley E. Minneapolis
 Kimball, H. H. Minneapolis
 Kistler, C. M. Minneapolis
 Kistler, J. M. Minneapolis
 Knight, H. L. Minneapolis
 Knight, Ray Robert. Minneapolis
 Knights, F. A. Minneapolis
 Kohler, Geo. A. Minneapolis
 Kriedt, Dan'l. Minneapolis
 Krogstad, Olaf E. Minneapolis
 Lampson, H. G. Minneapolis
 Lapierre, C. A. Minneapolis
 Law, A. A. Minneapolis
 Leavitt, H. H. Minneapolis
 Lee, K. J. Minneapolis
 Lee, Thos. G. Minneapolis
 Leland, M. N. Minneapolis
 Lemstrom, Jarl Minneapolis
 Lewis, J. M. Minneapolis
 Lind, A. Minneapolis
 Lind, C. J. Minneapolis
 Linton, W. B. Minneapolis
 Litchfield, John T. Minneapolis
 Little, J. W. Minneapolis
 Litzenberg, J. C. Minneapolis
 Loberg, A. E. Minneapolis
 Lockwood, L. S. Minneapolis
 Long, Jesse. Minneapolis
 Luther, Clara M. Minneapolis
 Lynch, M. J. Minneapolis
 McCollom, C. A. Minneapolis
 McDaniel, Orlana. Minneapolis
 McDermott, T. E. Minneapolis
 McDonald, H. N. Minneapolis
 McDonald, I. C. Minneapolis
 McEachran, A. Minneapolis
 McLaughlin, J. A. Minneapolis
 McMurdy, R. S. Minneapolis
 Macdonald, J. W. Minneapolis
 Macnie, J. S. Minneapolis
 Maland, C. O. Minneapolis
 Malchow, C. W. Minneapolis
 Mann, A. T. Minneapolis
 Mead, Marion A. Minneapolis
 Meleck, H. N. Minneapolis
 Meyer, E. L. Minneapolis
 Miller, Hugo H. Minneapolis
 Mintener, J. W. Minneapolis
 Mitchell, L. C. Minneapolis
 Moen, J. K. Minneapolis
 Monahan, J. A. Minneapolis
 Moore, J. E. Minneapolis
 Moore, J. T. Minneapolis
 Moorehead, Martha B. Minneapolis
 Moren, E. Minneapolis
 Morris, Minor Hopkins, Minn.
 Morse, John H. Minneapolis
 Morton, H. McL. Minneapolis
 Mullin, R. H. Minneapolis
 Murdock, A. J. Minneapolis
 Murphy, W. B. Minneapolis
 Murray, Wm. R. Minneapolis
 Nelson, C. P. Minneapolis
 Nelson, H. S. Minneapolis
 Newhart, Horace Minneapolis
 Nicholson, Elmer Minneapolis
 Nickerson, M. L. Minneapolis
 Nickerson, W. S. Minneapolis
 Nippert, L. A. Minneapolis
 Nissen, Henrik Minneapolis
 Nootnagel, C. F. Minneapolis
 Norred, C. H. Minneapolis
 Noth, H. W. Minneapolis
 Nye, W. F. Minneapolis
 Oberg, C. M. Minneapolis
 Oberg, Emanuel Minneapolis
 O'Brien, R. P. Minneapolis
 O'Donnell, J. E. Minneapolis
 Olson, Olaf A. Minneapolis
 Orton, H. N. Minneapolis
 Owre, Oscar Minneapolis
 Parker, E. H. Minneapolis
 Parks, Albert H. Minneapolis
 Pederson, R. M. Minneapolis
 Peters, R. M. Minneapolis
 Pettit, C. W. Minneapolis
 Philan, R. J. Minneapolis
 Phillips, Edwin. Minneapolis
 Pineo, W. B. Minneapolis
 Plehn, J. F. Minneapolis
 Plonske, C. J. Minneapolis
 Poehler, F. T. Minneapolis
 Pond, Samuel B. Minneapolis
 Poppe, Fred H. Minneapolis
 Post, J. O. Seattle, Wash.
 Pratt, F. J. Minneapolis
 Quinby, Thos. F. Minneapolis
 Quist, Henry W. Minneapolis
 Reed, Chas. A. Minneapolis
 Rees, S. P. Minneapolis
 Rexford, L. A. Minneapolis
 Reynolds, James S. Minneapolis
 Ringnall, C. J. Minneapolis
 Rishmiller, J. H. Minneapolis
 Roan, Carl M. Minneapolis
 Roberts, Cora B. Minneapolis
 Roberts, Geo. F. Minneapolis
 Roberts, Thos. S. Minneapolis
 Roberts, W. B. Minneapolis
 Robertson, H. E. Minneapolis
 Robitshek, E. C. Minneapolis
 Rochford, W. E. Minneapolis
 Rodgers, C. L. Minneapolis
 Rome, Robert R. Minneapolis
 Rosen, Samuel Minneapolis
 Rutledge, J. W. Minneapolis
 Scheffek, J. F. Minneapolis
 Schjelderup, N. H. Minneapolis
 Schmidt, Karl H. Minneapolis
 Schwyzer, G. Minneapolis
 Seashore, Gilbert. Minneapolis
 Sedgwick, J. P. Minneapolis
 Sessions, J. C. Minneapolis
 Shelden, W. D. Minneapolis
 Simpson, J. D. Minneapolis
 Silvertsen, Ivar. Minneapolis
 Slocumb, Maude S. Minneapolis
 Smith, Arthur E. Minneapolis
 Smith, C. A. Minneapolis
 Smith, D. Edmund. Minneapolis
 Soderlind, A. Minneapolis
 Spratt, C. J. Minneapolis
 Spratt, C. N. Minneapolis
 Staples, H. L. Minneapolis
 Stewart, J. Clark. Minneapolis
 Stone, J. Leslie. Minneapolis
 Stowe, Alvah J. Minneapolis
 Strout, E. S. Minneapolis
 Stuart, J. H. Minneapolis
 Sweetser, H. B. Minneapolis
 Sweitzer, S. E. Minneapolis
 Taft, J. O. Minneapolis
 Talbot, Ada E. Minneapolis
 Tennyson, Falk Minneapolis
 Thomas, David O. Minneapolis
 Thomas, G. H. Minneapolis
 Tibbitts, J. I. Wayzata
 Tingdale, A. C. Minneapolis
 Todd, F. C. Minneapolis
 Towers, F. E. Minneapolis
 Towers, Mary E. Minneapolis
 Tryon, Wm. E. Minneapolis
 Tunstead, Hugh Minneapolis
 Tyrrell, C. C. Minneapolis
 Ulrich, Henry L. Minneapolis
 Van Deboget, Lewis. Minneapolis
 VanderHorck, M. P. Minneapolis
 Voyer, Emil O. Minneapolis
 Wang, A. M. Minneapolis
 Vanous, E. Z. Minneapolis
 Warham, Thos. T. Minneapolis
 Watson, J. A. Minneapolis
 Watson, John. St. Louis Park
 Westbrook, F. F. Minneapolis
 Weston, C. G. Minneapolis
 Wethall, A. G. Minneapolis
 Wheat, F. C. Minneapolis
 Whetstone, Mary S. Minneapolis
 Whipple, C. D. Minneapolis
 White, S. M. Minneapolis
 Wilcox, Archa E. Minneapolis
 Wilcox, M. Russell. Minneapolis
 Wilcox, Van H. Minneapolis
 Williams, C. W. Minneapolis
 Williams, H. L. Minneapolis
 Williams, Robert Minneapolis
 Williams, U. G. Minneapolis
 Wood, Douglas F. Minneapolis
 Woodard, F. R. Minneapolis
 Woodworth, Elizabeth. Minneapolis
 Wright, C. B. Minneapolis
 Wright, C. Da. Minneapolis
 Wright, F. R. Minneapolis

Meeker County Medical Society

Regular meetings, January and June

Annual meeting in January

PRESIDENT
 Danielson, Karl A. Litchfield

SECRETARY
 Robertson, J. W. Litchfield

Brigham, F. T. Watkins
 Chapman, W. E. Litchfield
 Cutts, G. A. C. Grove City
 Donovan, J. J. Eden Valley
 Hansom, M. O. Dassel

Hildebrandt, Ernest... Forest City
 Kauffman, John H. Dassel
 Peterson, A. C. Dassel
 Peterson, George E. Dassel
 Robertson, Archibald ... Litchfield

Wright County Medical Society

Regular meetings, first Monday in January, April, July, and October

Annual meeting in October

PRESIDENT
 Ridgway, A. M. Annandale

SECRETARY
 Catlin, John J. Buffalo

Chilton, E. Y. Howard Lake
 Gelz, J. J. Buffalo
 Hawkins, E. P. Montrose
 Hill, A. L. Monticello
 Larsen, C. L. Vienna, Austria

Metcalf, J. N. Monticello
 O'Hair, P. Waverly
 Roseau, Victor. Maple Lake
 Shrader, E. E. Watertown
 Valiquet, M. V. Rockford

Stearns-Benton County Medical Society

Regular meetings, third Thursday in January, April, July, and October

Annual meeting in April

PRESIDENT
 Pilon, Pierre C. Paynesville

SECRETARY
 Boehm, J. C. St. Cloud
 Anderson, Ernest A. Holmgford
 Beaty, J. H. St. Cloud
 Beebe, W. L. St. Cloud
 Brigham, Charles F. St. Cloud
 Brigham, G. S. St. Cloud
 DuBois, Julian A. Sauk Center
 Dunn, John B. St. Cloud
 Edmunds, I. L. St. Cloud
 Freeman, W. L. Foley

Friesleben, William... Sauk Rapids
 Goehrs, H. W. Melrose
 Gulde, W. C. St. Cloud
 Hilbert, Pierre A. Melrose
 Holdridge, Geo. A. Browerville
 Hubert, R. I. St. Cloud
 Jellison, E. R. Foley
 Kern, Max J. St. Cloud
 Kirghis, A. J. Sauk Center
 Kuhlmann, August. Melrose
 Lalonde, Edmund Richmond
 Lalonde, J. N. Cold Spring
 Lamb, Harold L. Sauk Center
 Leech, W. Stuart. Brooten
 Lewis, C. B. St. Cloud

Lewis, Edwin J. Sauk Center
 McMasters, James M. Sauk Center
 Maloy, Geo. E. St. Cloud
 Moynihan, A. F. Sauk Center
 Pinnault, H. A. St. Joseph
 Putney, George E. Paynesville
 Rand, M. J. Sauk Rapids
 Rathbun, A. M. Rice
 Ridgway, Alex. Belgrade
 Sherwood, Geo. E. Kimball
 Sutton, Henry E. Cold Spring
 Watson, Tolbert. Albany
 Whiting, Arthur D. St. Cloud
 Wolner, O. H. St. Cloud
 Woods, E. A. Clear Lake

Kandiyohi-Swift County Medical Society

Regular meetings, on call of the President

Annual meeting in April

PRESIDENT
 Johnson, Hans Kerkhoven

SECRETARY
 Newman, G. A. New London

Branton, Berton J. Willmar
 Daignault, Oscar. Benson
 Frost, H. E. Willmar
 Jacobs, J. C. Willmar

Johnson, Christian Willmar
 Peterson, J. R. Willmar
 Rains, J. M. Willmar
 Scofield, C. L. Benson

FIFTH DISTRICT

COUNCILOR, H. M. WORKMAN. Tracy

Camp Release District Medical Society

Renville, Chippewa, Lac qui Parle, Yellow Medicine, and Sibley Counties

Regular meetings, fourth Thursday in January, April, July, and October

Annual meeting in January

PRESIDENT
 Clay, E. M. Renville

SECRETARY
 Zimbeck, R. D. Montevideo
 Facon, R. S. Montevideo
 Beck, W. M. Hanley Falls
 Benson, O. O. Sacred Heart
 Bergh, L. N. Montevideo
 Burns, F. W. Watson
 Burns, M. A. Milan
 Cole, H. B. Franklin
 Cressey, F. J. Granite Falls
 Davison, P. C. Clara City
 Duclos, J. A. Henderson

Duncan, H. Marietta
 Ferguson, James B. Olivia
 Flower, Ward Z. Gibbon
 Gammell, H. W. Madison
 Giere, E. O. Madison
 Hacking, F. H. Granite Falls
 Hauge, M. M. Clarkfield
 Helland, J. W. Maynard
 Johnson, A. E. Madison
 Johnson, H. M. Dawson
 Jones, D. N. Gaylord
 Kanne, C. W. Arlington
 Lee, William P. Fairfax
 Lima, L. Monticello
 Lumley, W. A. Raymond
 Mee, P. H. Gaylord

Mesker, G. H. Olivia
 Miller, F. C. Olivia
 Moore, W. J. Wood Lake
 Nelson, N. A. Mora
 Penhall, F. W. Morton
 Powell, C. B. Madison
 Puffer, F. L. Bird Island
 Rogers, C. E. Montevideo
 Schneider, J. P. Green Isle
 Stemsrud, A. A. Dawson
 Stolpestad, H. L. Lafayette
 Strout, G. E. Winthrop
 Walker, G. H. Fairfax
 Watson, Charles W. Boyce

Brown-Redwood County Medical Society

Regular meetings, January, April, and October

Annual meeting second Tuesday in January

PRESIDENT
Gray, F. D.Vesta

SECRETARY
Brand, W. A.Redwood Falls
Adams, J. L.Morgan
Aldrich, F. H.Belview

Chadbourn, Alfred G.Redwood Falls
Clement, L. O.....Lamberton
Fritsche, L. A.....New Ulm
Gibson, C. P.Redwood Falls
Kiefer, M. A.Sleepy Eye
Kuske, A. L.Sanborn
Pease, Giles R.....Redwood Falls
Prim, J. A.....Comfrey

Reineke, G. F.....New Ulm
Rothenberg, J. C.....Springfield
Schoch, J. L.....New Ulm
Shrader, J. S.....Springfield
Strickler, O. C.....New Ulm
Weiser, G. B.....New Ulm
Wellcome, J. W. B.....Sleepy Eye

Lyon-Lincoln County Medical Society

Regular meetings, first Tuesday in February, July, and November

Annual meeting in February

PRESIDENT
Cox, A. J.....Tyler

SECRETARY
Workman, H. M.....Tracy
Bacon, C. G.....Marshall
Germs, Chas.....Balaton

Hard, A. D.....Marshall
Hoidale, A. D.....Tracy
Jacquot, G. L.....Ivanhoe
Jensen, J. C.Hendricks
Kinney, R. H.....Lake Benton
Knudson, B. C.....Tyler
Persons, C. E.....Marshall
Renninger, J. S.....Marshall

Robertson, J. B.....Cottonwood
St. Dennis, E. F.....Ghent
Sanderson, Ed. T.....Minneota
Thordarson, Th.....Minneota
Valentine, W. H.....Tracy
Wakefield, Wm.....Lake Benton

SIXTH DISTRICT

COUNCILOR, A. E. SPALDING.....Luverne

Southwestern Medical Society

Pipestone, Rock, Nobles, Murray, and Cottonwood Counties

Regular meetings, second Thursday in January and July

Annual meeting in January

PRESIDENT
Humiston, Ray.....Worthington

SECRETARY
King, EmilFulda
Balcom, G. G.....Lake Wilson
Beadie, W. D.....Windom
Bong, J. H.....Jasper
Brown, A. H.....Pipestone
Crowley, J. M.....Ellsworth
Dolan, C. P.....Worthington

Gerber, Lou M.....Jasper
Greene, C. A.....Windom
Kilvington, S. S.....Hopkins
Leebens, John H.....Lisnore
Lowe, Thomas.....Pipestone
Manson, F. M.....Worthington
May, C. C.....Adrian
Miller, Victor I.....Westbrook
Paulson, T. S.....Hills
Rice, G. D.....Pipestone
Richardson, W. E.....Slayton

Senn, Edward W.....Currie
Sherman, C. L.....Luverne
Sogge, L. L.....Windom
Spalding, A. E.....Luverne
Sullivan, M.....Adrian
Taylor, Wm. J.....Pipestone
Tofte, Josephine B.....Pine City
Weiser, F. R.....Windom
Williams, A. B.....Willmont
Williams, Leon A.....Slayton
Wright, C. O.....Luverne

Blue Earth Valley Medical Society

Faribault and Martin Counties

Regular meetings, second Tuesday in January and July

Annual meeting in January

PRESIDENT
Luedtke, G. H.....Fairmont

SECRETARY
Broberg, J. A.Blue Earth

Burton, C. N.....Elmore
Chambers, W. C.....Blue Earth
Durgin, F. L.....Winnebago
Forbes, H. J.....Pasadena, Cal.
Franklin, A. J.....Blue Earth
Holm, P. F.....Wells

Hunt, F. N.....Blue Earth
Hunte, A. F.....Truman
Jacobs, A. C.....Elmore
Johnson, H. P.....Fairmont
Richardson, W. J.Fairmont

Jackson County Medical Society

Regular meetings, second Tuesday in May and November

Annual Meeting in November.

PRESIDENT
Maitland, David P.....Jackson

SECRETARY
Benson, Iver S.....Jackson

Allen, Cora S.....Heron Lake
Allen, R. W.....Heron Lake
Artz, Herbert L.....Jackson
Leigh, H. L.....Lakefield
Moe, Anton J.....Heron Lake

Portman, William C.....Jackson
Richmond, C. D.....Brewster
Searles, ScottLakefield

Watonwan County Medical Society

Regular meetings, second Wednesday in the even-numbered months

Annual meeting, second Wednesday in December

PRESIDENT
Rowe, W. H.....St. James

SECRETARY
Haynes, B. H.St. James

Cooley, C. O.Madella
Jenson, T. J.....Madella

McCarthy, W. J.....Madella
Thompson, AlbertSt. James

SEVENTH DISTRICT

COUNCILOR, F. A. DODGE.....Le Sueur

Nicollet-Le Sueur County Medical Society

Regular meetings, January and September

Annual meeting in January

PRESIDENT
Strathern, F. P.....St. Peter

SECRETARY
Le Clerc, Joseph E.....Le Sueur

Aitkens, H. B....Le Sueur Center
Daniels, J. W.....St. Peter
Dodge, F. A.....Le Sueur
Freeman, George H.....St. Peter
Hartung, H. A.....Le Sueur
McDougall, D. W.....Le Sueur

McIntyre, G. W.....St. Peter
Merritt, Geo. F.....St. Peter
Theissen, W. N.....Henderson
Tomlinson, H. A.....St. Peter
Vallin, H. D.....St. Peter
Woodworth, L. F..Le Sueur Center

McLeod County Medical Society

Regular meetings, January, April, July, and October

Annual meeting in January.

PRESIDENT
Axilrod, D. L.Hutchinson

SECRETARY
Maurer, E. L.....Brownston
Barrett, E. E.Glencoe

Bolles, D. W.....Brownston
Clement, J. B.....Lester Prairie
Dorsey, J. H.....Glencoe
Dulude, S.Winsted
Hovorka, T. W.Glencoe
Nickerson, B. S.....Glencoe
Schlopp, O. W.....Hutchinson

Sheppard, Fred.....Hutchinson
Sheppard, P. E.....Hutchinson
Tinker, C. W.....Stewart
Trutna, T. J.....Silver Lake
Wakefield, KeeHutchinson

Scott-Carver County Medical Society

Regular meetings, first Thursday in March, June, September, and December

Annual meeting in December

PRESIDENT
Schneider, H. A.....Jordan

SECRETARY
Reiter, H. W.Shakopee

Grivelly, H. J...Hohenwold, Tenn.
Landenberger, John...New Prague
McCoy, J. E.....Henning
McKeon, JamesMontgomery
Maertz, Wm. F.....New Prague

Moloney, G. R.....Belle Plaine
Novac, Edward E....New Prague
Phillips, W. H.Jordan
Soper, John E.Norwood

Goodhue County Medical Society

Regular meetings, first Tuesday in January, April, July, and October

Annual meeting in January

PRESIDENT
Dimmitt, F. W.....Red Wing

SECRETARY
Conley, A. T.....Cannon Falls
Anderson, J. V.Red Wing
Backe, H. E.....Kenyon

Conley, H. E.....Cannon Falls
Cremer, M. H.....Red Wing
Cremer, P. H.....Cannon Falls
Gates, C. E.....Goodhue
Gates, J. A.....Kenyon
Gryttenholm, K.Zumbrota
Haessly, S. B.....Red Wing
Hill, Charles.....Pine Island

Jones, A. W.....Red Wing
Larson, O. O.....Zumbrota
McKinstry, H. L.....Red Wing
Overholt, G. H.....Kenyon
Sawyer, H. P.....Goodhue
Smith, M. W.....Red Wing
Wellner, G. C.....Red Wing
Werner, N. L.....Red Wing

Rice County Medical Society

Regular meetings, first Wednesday in January, April, July, and October

Annual meeting in January

PRESIDENT
Rogers, A. C.....Faribault

SECRETARY
Davis, F. U.....Faribault
Hunt, W. A.Northfield
Huxley, F. R.Faribault
Lexa, F. J.....Lonsdale

McBroom, D. E.....Elysian
Macdonald, A.Morristown
Mayland, M. L.....Faribault
Phillips, J. G.....Northfield
Phillips, J. R.....Northfield
Pringle, A. F.....Northfield
Robillard, W. H.....Faribault
Rose, F. M.Faribault
Rumpf, W. H.....Faribault

Seeley, I. F.....Northfield
Seeley, J. S.....Faribault
Smith, P. A.....Faribault
Strang, D. M.....Northfield
Warren, F. S.....Faribault
White, J. B.....Montgomery
Wilson, W.....Northfield
Wylie, A. R. T.....Faribault

Wabasha County Medical Society

Regular meeting (annually) first Thursday after first Monday in July

PRESIDENT
McGulgan, Henry T.....Mazeppa

SECRETARY
Wilson, W. F.Lake City
Adams, J. C.....Lake City

Adams, W. T.Elgin
Bayley, E. H.....Lake City
Bond, J. F.....Wabasha
Cochrane, W. J.....Lake City
Dempsey, D. P.....Kellogg

French, E. A.....Plainview
Ingram, L. C.....Zumbro Falls
Shaughnessy, M. J.....Wabasha
Slocumb, J. A.....Plainview

EIGHTH DISTRICT

COUNCILOR, A. O. BJELLAND.....Mankato

Blue Earth County Medical Society

Regular meetings last Monday of each month

Annual meeting, December meeting

PRESIDENT
Benham, E. W.....Mankato

SECRETARY
Kelly, T. C.North Mankato

Andrews, J. W.....Mankato
Andrews, Roy N.....Mankato
Bigelow, Charles E...Madison Lake
Bjelland, A. O.....Mankato
Bomberger, F. J.....Mapleton
Curran, G. R.....Mankato

Dahl, G. A.Mankato
Davis, E. J.....Minnehaha
Edwards, J. M.....Mankato
Field, MertonMinnesota Lake
Grimes, H. B.....Lake Crystal
Hering, H. H.....Lake Crystal
Hielscher, J. A.Mankato
Holbrook, J. S.Mankato
Holman, C. J.....Mankato
Hughes, Helen.....Mankato
Hughes, Jane C.....Mankato
James, J. H.....Mankato

Juliar, R. O.....Mankato
Krueger, L. W.....Mapleton
Liedloff, A. G.....Mankato
McMicheal, O. H....Vernon Center
Macbeth, J. L.....St. Clair
Merrill, J. E.....Amboy
Osborn, Lida.....Mankato
Schlesselman, J. T...Good Thunder
Schmitt, A. F.....Mankato
Schmitt, S. C.....Mankato
Smith, D. D.....Mankato
Williams, John.....Lake Crystal

Dodge County Medical Society

Regular meetings, third Wednesday in January, May, and September

Annual meeting in May

PRESIDENT
Thimsen, N. C.....Hayfield

SECRETARY
Davis, F. W.....Kasson

Adams, R. T.....Mantorville
Baker, A. L.Kasson
Belt, W. E.....Dodge Center
Bigelow, C. S.....Dodge Center

Clifford, F. F.....West Concord
Harrison, E. E.....West Concord
Way, O. F.....Clairmont

Freeborn County Medical Society

Regular meetings, fourth Tuesday in May and November

Annual meeting in May

PRESIDENT
Von Berg, J. P.....Albert Lea

SECRETARY
Rodli, O. E.....Albert Lea

Calhoun, Frank W.....Albert Lea
Christiansen, JamesAlden
Gordon, David.....Albert Lea
Hood, Mary E.Albert Lea
Nannestad, J. R.....Albert Lea

Palmer, W. L.....Albert Lea
Stevenson, Robert G...Albert Lea
Todd, W. E.....Albert Lea
Wedge, A. C.Albert Lea

Houston-Fillmore County Medical Society

Regular meetings, May and October; one midsummer meeting

Annual meeting in October

PRESIDENT
Dunn, J. T.Wykoff

SECRETARY
Fischer, O. F.....Houston

Anderson, Norman E....Harmony
Browning, W. E.Caledonia

Drake, F. A.....Lanesboro
Gowdy, F. A.....Harmony
Hart, A. B.....Canton
Hvoslef, J. C.Lanesboro
Jensen, T.Spring Grove
Love, George A.....Preston
Nass, H. A.....Mabel

Ongsard, C. K.....Rushford
Ongsard, L. K.....Houston
Reay, G. R.....Hokah
Rhines, D. C.....Caledonia
Stocking, Fred F.....Rushford
Utley, J. D.....Spring Valley
Woodruff, C. W.....Chatfield

Mower County Medical Society

Regular meetings, second Wednesday in January, April, July, and October

Annual meeting in October

PRESIDENT
Hart, M. J.....LeRoy

SECRETARY
Collins, A. N.....Austin

Allen, A. W.....Austin
Cobb, W. F.....Lyle

Fiestier, Fannie K.....Austin
Frazer, W. A.....Lyle
Gray, G. W.....Brownsdale
Hegge, C. A.....Austin
Hegge, O. H.....Austin
Henslin, A. E.....LeRoy
Johnson, C. H.....Austin
Leck, Clifford C.....Austin

Lewis, C. F.....Austin
Mitchell, R. S.....Grand Meadow
Peirson, Homer F.....Austin
Rogers, G. M. F.....Austin
Schottler, G. J.....Dexter
Smith, E. V.....Adams
Torkelson, P. T.....Lyle

Olmsted County Medical Society

Regular meetings, second Friday in each month

Annual meeting in January

PRESIDENT
Joyce, George T.....Rochester

SECRETARY
Crewe, John E.....Rochester

Balfour, DonaldRochester
Beckman, E. H.....Rochester
Praasch, W. F.....Rochester
Dugan, R. C.....Eyota
Fawcett, CharlesStewartville

Giffin, H. Z.....Rochester
Graham, C.....Rochester
Granger, Charles T.....Rochester
Granger, Gertrude B.....Rochester
Henderson, M. S.....Rochester
Heyerdale, O. C.....Rochester
Judd, E. S.....Rochester
McCarty, W. C.....Rochester
Matthews, Justus.....Rochester
Mayo, C. H.....Rochester
Mayo, W. J.....Rochester

Mayo, W. W.....Rochester
Mosse, F. R.....Rochester
Phelps, R. M.....Rochester
Plummer, H. S.....Rochester
Smith, F. C.....St. Charles
Smith, Margaret.....Rochester
Stacy, Leda.....Rochester
Stinchfield, A. W.....Rochester
Willey, V. J.....Rochester
Wilson, L. B.....Rochester
Witherstine, H. H.....Rochester

Steele County Medical Society

Regular meetings, first Tuesday in each month

Annual meeting in January

PRESIDENT
Andrist, J. W. Owatonna

SECRETARY
Stewart, Allan B. Owatonna

Adair, John H. Owatonna
Ertel, E. Q. Ellendale
Eustis, W. C. Owatonna
Hatch, Theo. L. Owatonna
Meiby, Benedick. Blooming Prairie

Morehouse, G. G. Owatonna
Schulze, George. Owatonna
Smersh, Francis M. Owatonna
Warren, J. W. Owatonna
Wood, H. G. Blooming Prairie

Waseca County Medical Society

Regular meetings, first Monday in January, April, July, and October

Annual meeting in January

PRESIDENT
Lynn, J. F. Waseca

SECRETARY
Blanchard, H. G. Waseca

Batchelder, E. J. New Richland
Chamberlin, W. A. Waseca
Cory, Wm. M. Waterville
Cummings, D. S. Waseca
Hagen, H. O. New Richland

O'Hara, J. J. Janesville
Rudolf, A. J. Waseca
Shrodes, George H. Waterville
Swartwood, F. A. Waseca
Taylor, M. J. Janesville

Winona County Medical Society

Regular meetings, first Monday in January, April, July, and October

Annual meeting in January

PRESIDENT
Gates, G. L. Winona

SECRETARY
McGaughey, H. F. Winona

Clark, C. N. St. Charles
Heise, W. F. C. Winona
Keyes, E. D. Winona

Leicht, Oswald Winona
Lichtenstein, H. M. Winona
Lindsay, W. V. Winona
Lynch, J. L. Winona
McLaughlin, E. M. Winona
Muir, Edwin S. Winona
Munger, L. H. Winona
Neumann, W. H. Lewiston

Olson, O. R. St. Charles
Pritchard, D. B. Winona
Robbins, C. P. Winona
Rollins, F. H. St. Charles
Scott, J. W. St. Charles
Steinbach, John Winona
Stewart, D. A. Winona
Tweedy, G. J. Winona

ALPHABETICAL ROSTER

Abbott, A. W. Minneapolis
Abbott, C. U. Aurora
Abbott, Wm. P. Duluth
Aborn, Wm. H. Brainerd
Abramovitch, J. H. St. Paul
Adair, F. L. Minneapolis
Adair, John H. Owatonna
Adams, B. S. Hibbing
Adams, J. C. Lake City
Adams, J. L. Morgan
Adams, R. T. Mantorville
Adams, W. T. Elgin
Adkins, C. M. Ogema
Aitkens, H. B. Le Sueur Center
Aldrich, A. G. Minneapolis
Aldrich, F. H. Belview
Alexander, F. H. Barnesville
Aling, C. P. Minneapolis
Allen, A. W. Austin
Allen, Cora S. Heron Lake
Allen, H. W. Minneapolis
Allen, Mason St. Paul
Allen, R. W. Heron Lake
Anderson, A. E. Minneapolis
Anderson, C. A. Rush City
Anderson, Ernest A. Holdingford
Anderson, James C. Duluth
Anderson, J. D. Minneapolis
Anderson, J. V. Red Wing
Anderson, L. N. Duluth
Anderson, Norman E. Harmony
Anderson, W. S. Warren
Andrews, J. W. Mankato
Andrews, Roy N. Mankato
Andrist, J. W. Owatonna
Angell, W. A. Minneapolis
Annis, H. B. Minneapolis
Arey, H. C. Excelsior
Armstrong, J. M. St. Paul
Armstrong, L. W. Breckenridge
Arneson, Thomas Kennedy
Artz, C. P. St. Paul
Artz, Herbert L. Jackson
Aspeland, S. J. Minneapolis
Aune, Martin. Minneapolis
Aurand, W. H. Minneapolis
Aurness, P. A. Minneapolis
Austin, Edward E. Minneapolis
Avery, J. Fowler. Minneapolis

Awty, W. J. Moorhead
Ayers, G. T. Ely
Aylmer, A. L. Minneapolis
Bacon, C. G. Marshall
Backe, H. E. Kenyon
Bacon, Knox. St. Paul
Bacon, L. C. St. Paul
Bacon, R. S. Montevideo
Bagley, W. R. Duluth
Baier, Florence C. Minneapolis
Baker, A. C. Fergus Falls
Baker, A. L. Kasson
Bakke, O. H. Minneapolis
Balcome, F. E. St. Paul
Balcorn, G. G. Lake Wilson
Balfour, Donald Rochester
Ball, C. R. St. Paul
Barber, J. P. Minneapolis
Barclay, A. Cloquet
Barrett, E. E. Glencoe
Barrett, F. Gilbert
Barsness, Nellie St. Paul
Barton, E. R. Frazee
Barton, G. C. Minneapolis
Bass, G. W. Minneapolis
Batchelder, E. J. New Richland
Batcheller, Oliver T. Brainerd
Baxter, S. H. Minneapolis
Bayley, E. H. Lake City
Beachler, G. F. Minneapolis
Beadie, W. D. Windom
Beaty, J. H. St. Cloud
Beck, W. M. Hanley Falls
Beckley, F. L. St. Paul
Beckman, E. H. Rochester
Beebe, Warren L. St. Cloud
Beise, R. A. Brainerd
Bell, J. W. Minneapolis
Belt, W. E. Dodge Center
Benham, E. W. Mankato
Benjamin, A. E. Minneapolis
Bennion, P. H. St. Paul
Benson, G. E. Minneapolis
Benson, Iver S. Jackson
Benson, O. O. Sacred Heart
Bergh, L. N. Montevideo
Bertelson, J. L. Crookston
Berthold, J. O. Perham
Bessessen, A. N. Minneapolis

Bigelow, Charles E. Madison Lake
Bigelow, C. S. Dodge Center
Binder, G. A. St. Paul
Bishop, C. W. Minneapolis
Bissell, Frank S. Minneapolis
Bjelland, A. O. Mankato
Black, William Parkers Prairie
Blacklock, S. S. Hibbing
Blake, James Hopkins
Blanchard, H. G. Waseca
Blomburgh, A. F. Minneapolis
Bloom, C. J. Lake Park
Bock, R. St. Paul
Boeckmann, F. St. Paul
Boeckman, M. Thief River Falls
Boehm, J. C. St. Cloud
Bohland, E. H. St. Paul
Boleyn, E. S. Stillwater
Bodies, D. W. Brownton
Bolsta, Chas. Ortonville
Bomberger, F. J. Mapleton
Bond, J. F. Wabasha
Bong, J. H. Jasper
Bouman, H. A. Minneapolis
Boxell, C. E. St. Paul
Boyer, S. H. Duluth
Braasch, W. F. Rochester
Brabec, F. J. Perham
Bracken, H. M. Minneapolis
Braden, A. J. Duluth
Bradley, C. H. Minneapolis
Brand, W. A. Redwood Falls
Branton, Berton J. Willmar
Bratrud, Theodore Warren
Bray, C. W. Blwabik
Brede, W. G. Minneapolis
Brigham, Charles F. St. Cloud
Brigham, F. T. Watkins
Brigham, G. S. St. Cloud
Bristol, L. D. St. Paul
Broberg, J. A. Blue Earth
Brooks, D. F. St. Paul
Brooks, G. F. Stevenson
Brown, A. H. Pipestone
Brown, E. I. St. Paul
Brown, E. J. Minneapolis
Brown, J. C. St. Paul
Brown, P. F. Eveleth
Brown, R. S. Minneapolis

Brown, S. E. St. Paul
Browning, W. E. **Caledonia**
 Brunelle, A. M. Cloquet
 Bryant, O. R. Minneapolis
 Buckley, E. W. St. Paul
 Budd, J. D. Two Harbors
 Rullen, F. W. Hibbing
 Burch, F. St. Paul
 Burfend, G. H. Afton
 Burnap, W. L. Pelican Rapids
 Burns, F. W. Watson
 Burns, M. A. Milan
 Burton, C. N. Elmore
 Buser, J. R. Biwabik
 Butchart, G. N. Hibbing
 Butler, John. Minneapolis
 Byrnes, W. J. Minneapolis

Caine, C. E. Morris
 Caldwell, D. K. St. Paul
 Caley, G. R. Princeton
 Calhoun, Frank W. Albert Lea
 Campbell, E. P. St. Paul
 Campbell, J. E. South St. Paul
 Campbell, R. A. Minneapolis
 Cannon, Harry. St. Paul
 Carlaw, C. M. Minneapolis
 Carman, Chas. L. St. Paul
 Carman, J. B. Detroit
 Carman, J. E. Detroit
 Carson, J. H. Duluth
 Cary, H. E. Minneapolis
 Cates, A. B. Minneapolis
 Catlin, John J. Buffalo
 Catlin, T. J. Waukenabo
 Cavanaugh, J. O. St. Paul
 Chadbourn, Alfred G. Redwood Falls
 Chamberlin, J. W. St. Paul
 Chamberlin, W. A. Waseca
 Chambers, W. C. Blue Earth
 Charpentier, A. A. St. Paul
 Chapman, O. S. Minneapolis
 Chapman, T. L. Duluth
 Chapman, W. E. Litchfield
 Cheney, E. L. Duluth
Chilton, E. Y. **Howard Lake**
 Chowning, Wm. M. Minneapolis
 Christenson, C. R. Starbuck
 Christiansen, James. Alden
 Christie, George R. Long Prairie
 Cirkler, A. A. Minneapolis
 Clark, C. N. St. Charles
 Clark, T. C. Stillwater
 Clay, E. M. Renville
 Clement, J. B. Lester Prairie
 Clement, L. O. Lamberton
 Clifford, F. F. West Concord
 Cobb, W. F. Lyle
 Cochran, W. J. Lake City
 Cockburn, J. C. Minneapolis
 Cohen, H. A. Minneapolis
 Cole, Herman B. Franklin
 Collins, A. N. Austin
 Collins, H. Duluth
 Collins, Herbert O. Minneapolis
 Colvin, A. R. St. Paul
 Comstock, A. E. St. Paul
 Condit, W. H. Minneapolis
 Conkey, C. D. Duluth
 Conley, A. T. Cannon Falls
 Conley, H. E. Cannon Falls
 Cook, Paul B. St. Paul
 Cooley, C. O. Madelia
 Cooney, H. C. Princeton
 Cooper, D. J. Dent
 Corbett, J. F. Minneapolis
 Corrigan, J. E. Spooner
 Cory, Wm. M. Waterville
 Cosman, E. O. Minneapolis
 Coulter, Chas. F. Wadena
 Courtney, Walter. Brainerd
 Coventry, W. A. Duluth
 Cowan, D. W. Sandstone
 Cowles, D. C. Minneapolis
 Cox, A. J. Tyler
 Crafts, Leo M. Minneapolis
 Cremer, M. H. Red Wing
 Cremer, P. H. Cannon Falls
 Cressey, F. J. Granite Falls
 Crewe, John E. Rochester
 Crosby, J. A. Minneapolis
 Cross, Jno. G. Minneapolis
 Crowe, J. H. Virginia
 Crowley, J. M. Ellsworth
 Crume, Geo. P. Minneapolis
 Cuff, W. S. St. Paul
 Cummings, D. S. Waseca
 Curran, G. R. Mankato
 Cutts, G. A. C. Grove City

Dahl, G. A. Mankato
 Dahleen, H. E. St. Paul
 Daignault, Oscar. Benson
 Dampier, C. E. Crookston
 Daniels, J. W. St. Peter
 Danielson, Karl A. Litchfield
 Darrow, Daniel C. Moorhead
 Daugherty, E. B. Pine City
 Daugherty, L. E. Eveleth
 Davis, E. J. Minnehaha
 Davis, H. S. Duluth
 Davis, F. U. Faribault
 Davis, F. W. Kasson
 Davis, H. W. St. Paul
 Davis, L. A. Dalton
 Davis, William. St. Paul

Davison, P. C. Clara City
 Day, L. W. Minneapolis
 Dearborn, B. S. Minneapolis
 Dempsey, D. F. Kellogg
 Dennis, W. A. St. Paul
 Denniston, C. P. Crookston
 Denny, C. F. St. Paul
 Deslauriers, A. A. Duluth
 Desmond, M. A. Akeley
 Detling, F. E. Duluth
 Deziel, G. Minneapolis
 Dimmitt, F. W. Red Wing
 Dinwoodie, W. St. Paul
 Disen, C. F. Minneapolis
 Dodge Franklin A. Le Sueur
 Dodge, W. M. Farmington, Minn.
 Dohm, A. J. St. Paul
 Dohm, C. L. St. Paul
 Dolan, C. P. Worthington
 Donaldson, C. A. Minneapolis
 Donovan, J. J. Eden Valley
 Dorsey, J. H. Glencoe
 Drake, F. A. Lanesboro
 Drechsler, Herman A. St. Paul
 Dredge, H. P. Sandstone
 Drenning, F. C. Duluth
 Driesbach, N. Minneapolis
 DuBois, Julian A. Sauk Center
 Duclos, J. A. Henderson
 Dugan, R. C. Eyota
 Dulude, S. Winsted
 Duncan, H. Marietta
 Dunlop, A. H. Crookston
 Dunn, John B. St. Cloud
 Dunn, J. T. Wykoff
 Dunning, A. W. St. Paul
 Dunsmoor, F. A. Minneapolis
 Durzin, F. L. Winnebago
 Dutton, C. E. Minneapolis

Earl, George A. St. Paul
 Earl, R. O. St. Paul
 Egan, John M. Minneapolis
 Eberlin, E. A. Glenwood
 Edmunds, I. L. St. Cloud
 Edwards, J. M. Mankato
 Eggen, O. K. Minneapolis
 Ehmke, W. C. Willow River
 Eitel, Geo. G. Minneapolis
 Ekhlad, J. W. Duluth
 Eklund, J. J. Duluth
 Engstrom, F. A. Battle Lake
 Erb, Frederick A. Minneapolis
 Erdmann, Chas. A. Minneapolis
 Erickson, J. G. Minneapolis
 Ertel, E. Q. Ellendale
 Eshelby, E. C. St. Paul
 Esser, John. Perham
 Estrem, C. O. Detroit
 Fustis, Warren C. Owatonna
 Ewing, C. F. Wheaton

Fahey, E. W. Duluth
 Farmer, J. C. McKinley
 Farr, R. S. Minneapolis
 Fawcett, Charles. Stewartville
 Ferguson, J. C. St. Paul
 Ferguson, James R. Olivia
 Field, Merton. Minnesota Lake
 Fiestler, Fannie K. Austin
 Fiefield, Emily W. Minneapolis
 Fischer, O. F. Houston
 FitzGerald, Don F. Minneapolis
 Fielstad, C. A. Glenwood
 Flagg, S. D. St. Paul
 Fleming, A. S. Wheaton
 Fleming, James. Cloquet
 Flower, Ward Z. Gibbon
 Foote, Lucius F. Minneapolis
 Forbes, H. J. Pasadena, Cal.

Fortier, E. L. Little Falls
 Fosness, Edith G. St. Paul
 Foster, Burnside. St. Paul
 Franklin, A. J. Blue Earth
Franzen, H. G. **Minneapolis**
 Frasier, G. W. Detroit
 Frazer, W. A. Lyle
 Freeborn, J. A. Fergus Falls
 Freeman, Charles. St. Paul
 Freeman, George H. St. Peter
 Freeman, W. L. Foley
 Freligh, E. O'B. Stillwater
 French, E. A. Plainview
 Friesleben, William. Sauk Rapids
Fritschie, L. A. **New Ulm**
 Froehlich, H. W. Hibbing
 Frost, H. E. Willmar
 Fryberger, W. O. Minneapolis
 Fulton, J. F. St. Paul
 Furber, W. W. Cottage Grove

Gambell, F. H. Thief River Falls
 Gammell, H. W. Madison
 Gans, E. M. Eveleth
 Gates, C. E. Goodhue
 Gates, G. L. Winona
 Gates, J. A. Kenyon
 Garand, J. H. Dayton
 Geist, Emil S. Minneapolis
 Gelz, J. J. Buffalo
 George, James W. Minneapolis
 Gerber, Lou M. Jasper
 Germon, Chas. Balaton
 Ghent, M. M. St. Paul
 Gibbon, L. L. Lowry
 Gibson, C. P. Redwood Falls
 Giere, E. O. Madison
 Gilfillan, J. S. St. Paul
 Giffin, H. Z. Rochester
 Gilkinson, A. J. Osakis
 Gillette, A. J. St. Paul
 Gillispi, N. H. Duluth
 Gilmore, R. T. Bemidji
 Goehrs, H. W. Melrose
 Goltz, E. V. St. Paul
 Gordon, David. Albert Lea
 Gordon, G. J. Minneapolis
 Gould, J. B. Minneapolis
 Gowdy, F. A. Harmony
 Graham, R. F. Minneapolis
 Graham, C. Rochester
 Graham, David. Duluth
 Graham, R. Duluth
 Gulde, W. C. St. Cloud
 Granger, Gertrude B. Rochester
 Gravelle, J. M. A. St. Paul
 Graves, Carlton. Aitkin
 Grav, C. E. Rush City
 Gray, F. D. Vesta
 Grav, G. W. Brownsdale
 Grawn, F. A. Duluth
 Greeley, L. Q. Duluth
 Green, E. K. Minneapolis
 Greene, C. A. Windom
 Greene, Charles L. St. Paul
 Grimes, H. B. Lake Crystal
 Grivelly, H. J. Hohenwald, Tenn.
 Groves, A. F. Brainerd
 Gryttenholm, K. Zumbrota
 Guilford, H. M. Minneapolis
 Gunz, A. N. Centre City

Hacking, F. H. Granite Falls
 Haessly, S. B. Red Wing
 Hagen, G. J. Minneapolis
 Hagen, H. O. New Richland
 Hagen, Ole J. Moorhead
 Haggard, G. D. Minneapolis
 Haines, J. H. Stillwater
 Hall, A. R. St. Paul
 Hall, Charlotte. St. Paul
 Hall, Elmer E. Little Falls
 Hall, Pearl M. Minneapolis
 Hall, W. A. Minneapolis
 Hallowell, Wm. H. Minneapolis
 Hamilton, A. S. Minneapolis
 Hand, W. R. Wendell
 Hanev, C. J. Duluth
 Hanscome, W. C. Minneapolis
 Hansen, Marius. Hendrum
 Hanson, M. O. Dassel
 Hare, E. F. Minneapolis
 Hard, A. D. Marshall
 Harding, J. C. St. Paul
 Harrah, J. W. Minneapolis
 Harrington, C. D. Minneapolis
 Harrison, E. E. West Concord
 Hart, A. B. Canton

Hart, M. J. LeRoy
 Hartung, H. A. Le Sueur
 Hartzell, Thos. B. Minneapolis
 Harwood, W. E. Eveleth
 Haskell, A. D. Alexandria
 Hatch, Theodore L. Owatonna
 Haugen, G. T. Battle Lake
 Haugan, O. M. Fergus Falls
 Hauge, M. M. Clarkfield
 Havens, J. G. W. Cloquet
 Haverfield, Addie R. Minneapolis
 Hawkins, E. P. Montrose
 Hawkins, V. J. St. Paul
 Haynes, B. H. St. James
 Haynes, F. E. Minneapolis
 Head, Geo. D. Minneapolis
 Heath, A. C. St. Paul
 Hedback, A. E. Minneapolis
 Hegge, C. A. Austin
 Hegge, O. H. Austin
 Helmark, J. H. Gary
 Helmark, O. E. Hawley
 Helse, W. F. C. Winona
 Helk, H. H. Minneapolis
 Helland, J. W. Maynard
 Hemstead, W. Brainerd
 Henderson, M. S. Rochester
 Henderson, A. Powell River, B. C.
 Hendrickson, J. F. Fertile
 Hennekens, E. J. Minneapolis
 Henry, C. E. Minneapolis
 Hensel, Charles N. St. Paul
 Henslin, A. E. LeRoy
 Hering, H. H. Lake Crystal
 Hesselgrave, S. S. St. Paul
 Heyerdale, O. C. Rochester
 Hielscher, J. A. Mankato
 Higbee, Albert E. Minneapolis
 Higbee, Paul A. Minneapolis
 Higgins, J. H. Minneapolis
 Hilbert, Pierre A. Melrose
 Hildebrandt, Ernest. Forest City
 Hilger, D. D. St. Paul
 Hill, A. L. Monticello
 Hill, Charles. Pine Island
 Hill, Eleanor J. Minneapolis
 Hill, R. J. Minneapolis
 Hirschfield, Adolph. Minneapolis
 Hirschfield, M. S. Duluth
 Hixon, R. B. Cambridge
 Hodgson, H. H. Crookston
 Hoegh, Knut. Minneapolis
 Hoff, Peder A. St. Paul
 Hoffman, J. L. Elbow Lake
 Holdale, A. D. Tracy
 Hoyt, Edward E. Detroit
 Holbrook, J. S. Mankato
 Holcomb, O. W. St. Paul
 Holdridge, Geo. A. Browerville
 Holm, P. F. Wells
 Holman, C. J. Mankato
 Holst, C. F. Little Falls
 Holst, J. B. Little Falls
 Holte, H. Crookston
 Hood, Mary E. Albert Lea
 Hopkins, Mary P. St. Paul
 Hovde, A. G. Superior, Wis.
 Hovde, Hans N. Duluth
 Hovorka, T. W. Glencoe
 Hubert, R. I. St. Cloud
 Hughes, Helen. Mankato
 Hughes, Jane C. Mankato
 Hulburd, H. L. Morris
 Humlston, Ray. Worthington
 Humphrey, E. W. Moorhead
 Humphrey, W. R. Stillwater
 Hunt, F. N. Blue Earth
 Hunt, H. E. St. Paul
 Hunt, W. A. Northfield
 Hunte, A. F. Truman
 Hunter, C. H. Minneapolis
 Hutchins, E. A. Minneapolis
 Huxley, F. R. Faribault
 Hvoslef, Jakob. Minneapolis
 Hvoslef, J. C. Lanesboro
 Hynes, James. Minneapolis
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 Jensen, T. J. Madelia
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 Johnson, A. E. Minneapolis
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 Johnson, Christian. Willmar
 Johnson, C. H. Austin
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The Parker Garage, located at 10th St. and Mary Place, Minneapolis, was built to meet a most urgent need, and it is a model place, just such a one as every city, even small ones, needs. It is open day and night. It keeps every car that it cares for in perfect shape, always putting in the stitch in time that saves nine. It saves the patrons money, and gives them a pleasure in running a car that few car owners know.

The Company's card appears regularly in our advertising columns.

THE BRUSH COUPE—THE DOCTOR'S DELIGHT

The Kemp Bros. Automobile Co. show on another page the Brush Coupe which they call the doctor's every-day car, one which furnishes comfort at a low first-cost (\$850), and does not bring the annoyances too often inseparable from even many high-priced cars.

This car has excellent lines, is simple in operation, and is economical and efficient,—in short it is a dependable car.

ATTENTION OF HOSPITALS

The Perfection Chair Co., of Indianapolis, Ind., manufactures a line of chairs and beds for hospitals which make the work of physicians and nurses much

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lighter while bringing comfort to the patient. In this issue, on another page, they show a cut of a hammock bed, which must be a most desirable appliance in the hospital, wellnigh indispensable in the handling and treatment of many cases.

We think it quite sufficient simply to direct the attention of our readers to such conveniences.

THE EDEN VALLEY SANATORIUM

We desire to call special attention to the announcement of the above-named sanatorium, which was recently established to meet a most urgent need, namely, that of persons suffering from tuberculosis and in need of sanatorium treatment, yet without sufficient funds to pay much more than the ordinary cost of board.

We are informed that Dr. Hambroer came to Eden Valley in 1888, and having enjoyed a lucrative practice ever since, he desired to found an institution that should be self-sustaining but not a money-making affair; and he found his opportunity in the needs of a very large class of unfortunate men and women.

The location is an ideal one, and Dr. Hambroer's work will be greatly appreciated by the medical profession, as well as by those whose needs his sanatorium may meet and whose lives may be saved or lengthened by its opportunities.

We hope some day to be able to speak more informally of this effort of a man who recognizes his obligations to his fellow-men.

AROUND THE "CIRCLE TOUR" OF THE REGAL PLUGGER

Such is the name which is given to the 5,000-mile reliability run on which the Regal Plugger is now well on its way having left Detroit Monday, April 11th.

The Regal Plugger, after finishing its run from New York to San Francisco, and thereby establishing a transcontinental record, has been used in a great many cities in the United States as a demonstrating-car and has already run up a mileage of over 15,000 miles. Without any alterations and with but very few adjustments, this car is just exactly the same as the day it left New York City. On the "Around the Circle Tour" nearly all of the large cities in the eastern and central sections of the United States will be visited. The first section of this trip will lie between Detroit and New York City, touching such points as Toledo, Cleveland, Buffalo, Syracuse, Albany, Boston, etc.

Night messages are being sent out daily from the parties on this trip to the various dealers advising them of the run. In the Haynes Automobile Company's window can be seen the Plugometer, which is an indicator to show just exactly at which city the Regal Plugger is at any time. They have received telegrams every day, and so far the Plugger has reached each destination and each city on scheduled time.

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In the treatment of intestinal dyspepsia, intestinal auto-intoxication, hepatic insufficiency, and allied affections, as well as in the therapy of medical affections of the liver and bile-tract, Chologestin has attained a well-merited reputation. The formula is sensible and logical, and the preparation has distinctly "made good"

in its special field. Until the present time the remedy has been obtainable in liquid form only, but, by reference to the advertisement of the manufacturers in this issue, it will be noted that Chologestin is now marketed in tablet form. In order to prevent confusion between liquid and tablet, the name *Tablogestin* has been adopted to designate the latter.

Three tablets contain the active medicinal ingredients of one tablespoonful of Chologestin, the regular adult dose, to be taken after each meal. Tablogestin will be found especially convenient for business men and women, travelers, etc., and those who find it inconvenient to carry a liquid remedy from place to place. By virtue of the contained sodium salt of the natural bile acid (glycocholate of sodium), Tablogestin (and Chologestin) increases the formation and promotes the freer flow of normal bile, and thus supplies, in greater degree, the natural stimulus to peristaltic action. Tablogestin (and Chologestin) is not, however, an active laxative or cathartic, but may more properly be called a regulator of bowel movement. Tablogestin is marketed in one size only, containing 72 tablets, equivalent to eight days' treatment.

Complete formula, descriptive literature, and samples will be mailed to physicians, upon request, by the manufacturers, F. H. Strong Company, 58 Warren St., New York.

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It has been shown to be a mistake to suppose that substantial and lasting benefit cannot be obtained in these ailments by the internal administration of therapeutic agents, a number of which have been thoroughly tried, with results often satisfactory, sometimes brilliant. An agent of undoubted value in such cases is Liquor Sedans, a preparation introduced to the medical profession many years ago by Messrs. Parke, Davis & Co., and esteemed and prescribed by physicians to an extent, it is believed, not equaled by any similar compound.

Liquor Sedans is composed of three of the most important sedatives, anodynes and tonics to the female reproductive tract—namely, black haw, hydrastis and Jamaica dogwood—so combined with aromatics as to constitute a very acceptable preparation, being in this respect unlike some other agents of a similar nature which are ordinarily taken with great reluctance. It is of marked usefulness in the treatment of functional dysmenorrhea, menorrhagia, ovarian irritability, menstrual irregularity, etc. Parke, Davis & Co. also manufacture Liquor Sedans Rx 2 (without sugar), which is precisely like the older formula but for the omission noted, and which is available for use in cases in which sugar is contraindicated; also Liquor Sedans with Cascara, which is of the same composition as Liquor Sedans except that each fluid ounce contains 40 minims of the fluid extract of cascara sagrada, giving to the formula an important tonic-laxative value.

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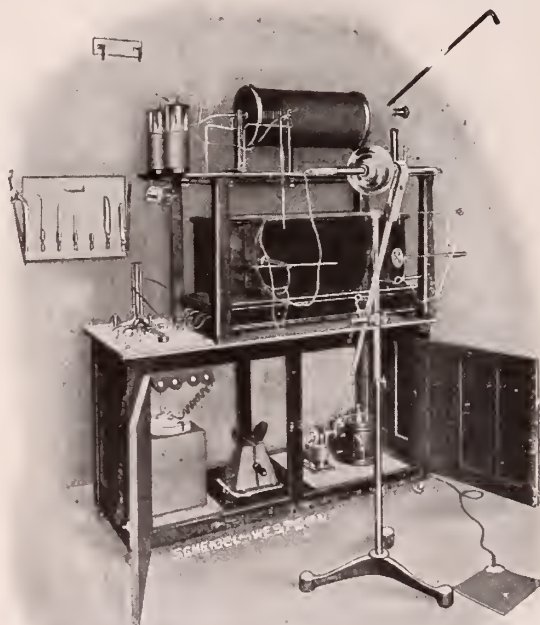


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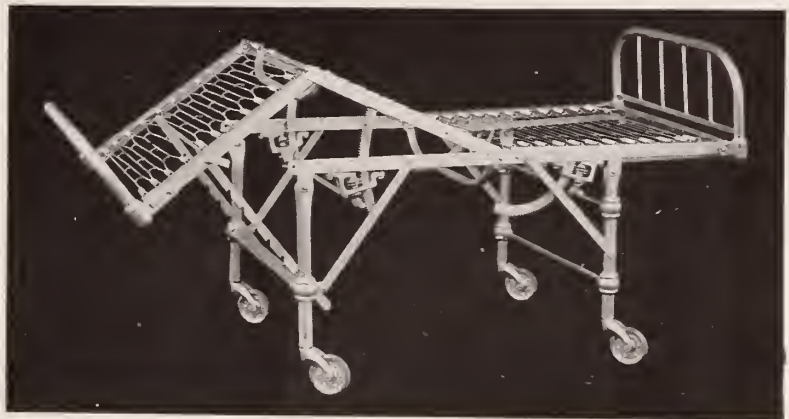
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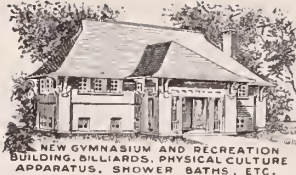
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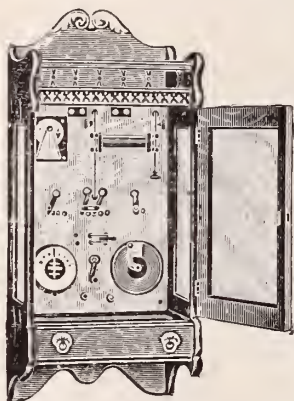
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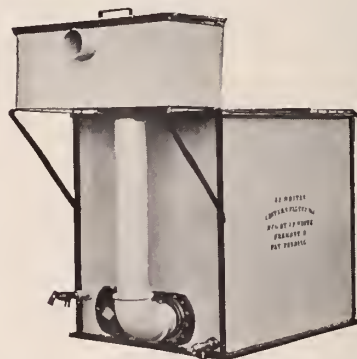
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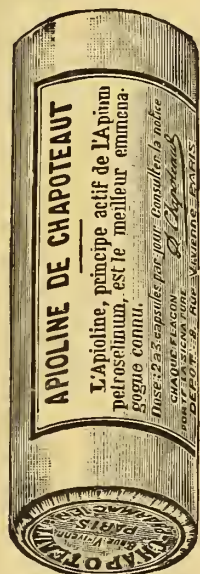
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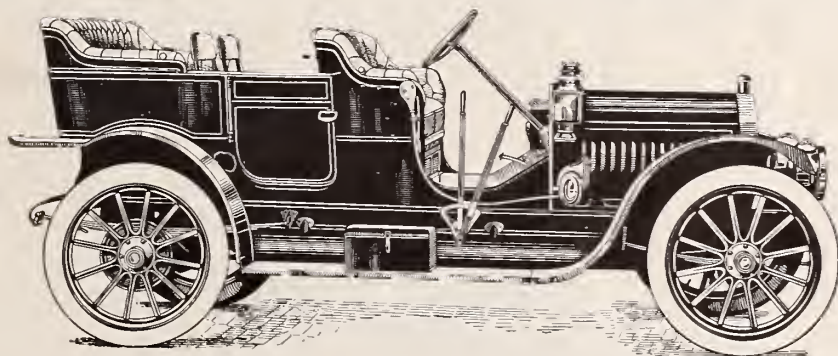
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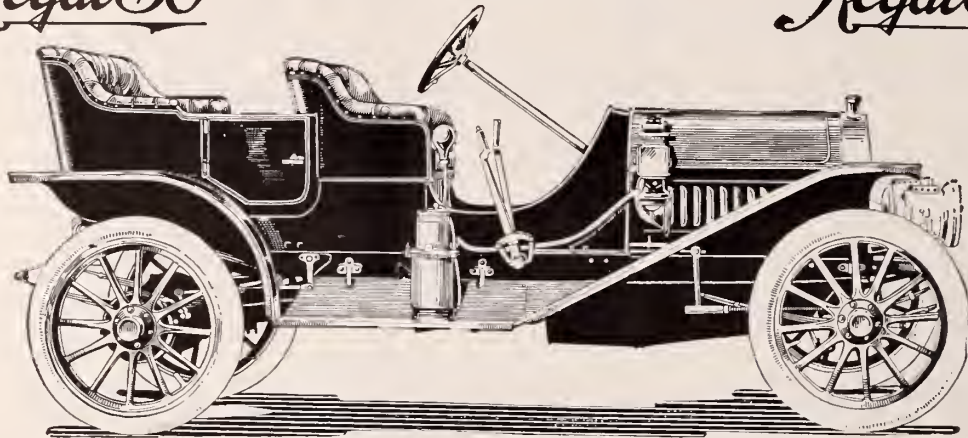
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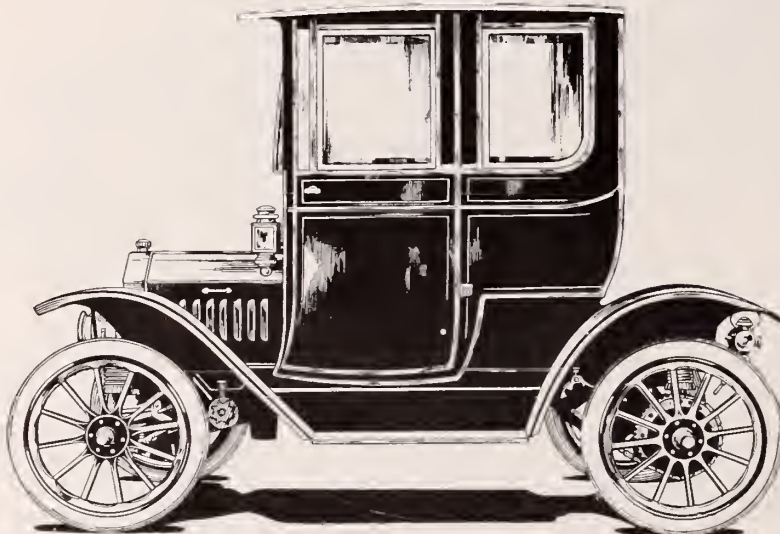
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No. 10

MANAGEMENT OF THE THIRD STAGE OF LABOR*

By F. L. ADAIR, M. D.

Instructor in Obstetrics, University of Minnesota

MINNEAPOLIS

The last or so-called third stage of labor is that part which elapses between the delivery of the child and the expulsion of the placenta. A number of things might be considered as properly belonging to this period, such as the examination and treatment of the lacerated perineum and the care of the child with particular reference to the cord, eyes, posture, etc.; but I shall limit the scope of this paper to a consideration of the placental stage proper.

The child is delivered, and the cord no longer pulsates, therefore, after it has been pulled taut a clamp is placed on it near the vulva, and then it is cut after securing it in some way or other near the skin margin of the navel. We are now in a position to watch and think over the changes that are taking place in the relations of the placenta and the uterus. In order to understand any case properly it is essential that we have a clear conception of the normal events; hence some remarks regarding the natural mechanism of the separation and expulsion of the after-birth may not be out of place.

Following the rupture of the membranes with the loss of more or less amniotic fluid and during the gradual expulsion of the child, the surface area of the inside of the uterus diminishes while that of the placenta and membranes remains practically the same. The increased thickness of the uterine walls compensates for the lessened surface. One might expect the placenta and membranes to be thrown into folds as a

consequence of this, but so far as the placenta is concerned this does not seem to be the case. Frozen sections made through the uterus from women who died immediately following the second stage of labor, show that the wall of the uterus, where the placenta is attached, is about one-fourth as thick as the remaining part. This fact, coupled with the persistence of intra-uterine pressure on the fetal as well as the maternal side of the after-birth, accounts for the firm attachment of the placenta until after the birth of the child.

Following the end of the second stage, one finds the fundus at about the level of the navel. After a short period of rest, one notes that it begins alternately to contract and relax and soon occupies a level some two or three centimeters higher. The cord advances, too, for a distance of some 10 to 12 centimeters, more or less. All of this indicates that the placenta has become detached from the uterine wall. It is very interesting to know how this has taken place. As soon as the amniotic sack is completely emptied there is no longer any pressure to hold the after-birth snugly against the uterine wall, which has become so greatly contracted; and this results in the formation of folds, particularly in the membranes themselves. The summits of these folds become detached from the uterus by tearing the decidua vera; and this leads to slight hemorrhages, which serve to increase the separation. One can see these streaks of hemorrhage and decidua very distinctly on the maternal side of the membranes. The placenta, being a non-

*Read before the Minneapolis Medical Club, February 9, 1910.

contractile organ is not able to change its area, but the thinner uterine wall to which it is attached begins to retract and tear through the delicate spongiosa of the decidua basalis. This opens the venous sinuses and provokes hemorrhages, which further loosen the placenta and form the retroplacental blood-clot. During all this the uterus is alternately contracting and relaxing, thus gradually working the placenta loose. This is a beautiful and almost perfect mechanism and should not in any way be interfered with. These same uterine contractions, which separate and expel the placenta, shut down on the large blood-sinuses and effectively prevent hemorrhage. It is easy to understand how this plan of nature may be altered and how the placenta may be forced more or less completely from its site by some manipulations, before the thinner segment has a chance to retract and shut off the sinuses.

It requires no great amount of imagination to understand why massage and kneading of the uterus, during the third stage of labor, interferes with the separation of the placenta and act as one of the most frequent causes of partial or complete retention of it.

From what has been said it is readily seen that it is very important to know whether or not the placenta is separated from the wall of the uterus. There are quite a number of signs which indicate that this detachment has taken place. The physical signs in connection with the uterus itself will be first considered.

It has been mentioned that the fundus at first lies at the height of the navel. This level soon changes with the accumulation of the blood-clot within the uterus. After the separation of the placenta and its extrusion into the lower uterine segment and the vagina, the height of the fundus again becomes lower. When the placenta slips into the lower segment, the fundus becomes more flattened, and the suprapubic region bulges slightly. Associated with these changes there is the onset of after-pains, which is very frequently attended with slight spurting of blood from the external genitals. It is important to note that this loss of blood accompanies a contraction of the uterus and does not occur during the period of relaxation.

As soon as the child is born it is important to mark the portion of the cord that lies at the vulva, and as soon as it has ceased pulsating to designate this position either with a tape or forceps. In this manner it is possible to deter-

mine how much the cord advances, which of course indicates that the placenta occupies a lower level in the uterus. If the placenta lies in the lower segment or vagina deep pressure in the suprapubic region does not cause a retraction of the cord into the vagina, such as occurs when the after-birth still occupies the upper segment.

If the cord is pulled taut and pressure then exerted upon the fundus, an impulse is felt if the placenta is still attached, which is not transmitted if separation has taken place. With the end of the cord tightly ligated it is possible to feel a pulsation in the umbilical vein, elicited by pressure on the fundus. This sign is supposed to be absent after separation of the placenta. In many cases it is quite possible to determine, by traction on the cord, whether or not the after-birth is still firmly held within the uterus.

In connection with these remarks I wish to emphasize the very great importance, I might almost say the necessity, of using all of these manipulations with the very greatest gentleness. No one of these signs is absolute, but by watching and considering them in relation to one another it is possible, in practically all of these cases, to determine whether or not the placenta has separated itself from its uterine site.

We have now seen how the separation of the placenta takes place and how it is possible to diagnose its occurrence. It is interesting to observe how the next step in the process takes place, namely, the expulsion of the placenta. There are two ways in which this is supposed to take place. One method bears the name of Schultze and the other is known by that of Duncan. The former supposes that the detachment of the after-birth begins in its central portion, with the consequence that the cord and fetal surface lead as the placenta is expelled. The latter states that the margin, usually the inferior, is first detached, which of course means that this portion leads as the after-birth is extruded. This matter has been observed a great deal with different ideas as to the relative frequency of the two methods. Most of the observations had to do with the manner in which the placenta presented at the vulva.

The majority of observers seem to think that the method of Schultze is more common though the frequency varies with the method of delivery used by the different obstetricians; those using traction to deliver the shoulders and body of

the child find the Duncan method more frequently. The observations of Gessner seem to prove that the placenta passes into the lower segment, as described by Duncan, in the majority of the cases, but that the expulsion through the vulva takes place more commonly as described by Schultze though occasionally the maternal surface appears first.

The forces which bring about the expulsion of the placenta are the uterine contractions, the pressure from contractions of the abdominal muscles, the expulsive action of the muscles of the pelvic canal, and, lastly, the force of gravity if the woman assumes the erect posture.

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	84	within	90	minutes
	52	"	120	"
137	within	2 hours,	or	14 per cent.=100 per cent.

Ziegler reported a series of 834 cases illustrating the following facts: Spontaneous expulsion occurred in 717 and in 641 within one hour; of these 49, or 6.8 per cent, were delivered within 5 minutes, 277, or 38.6 per cent, in from 15 to 30 minutes, and 315, or 43.9 per cent, in from ½ hour to one hour, leaving 76, or 10.7 per cent, which were extruded after one hour. Of the remaining cases 111 were delivered of the after-birth by the Crédé procedure and 6 by the manual removal of the placenta.

Dohrn, in a series of 1,000 cases, recorded a spontaneous delivery in 202 within one-fourth of an hour and 430 after one-half hour.

He tabulated some of the comparative results as follows:

	Expression	
	within	after
	15	15
	min-	min-
	utes.	utes.
Hemorrhage (over 250-300 gms) . . .	21%	4%
Retention of placenta or membrane . .	11%	1%

Fetor of the lochia	23%	5%
Fever (101°) in puerperium	16%	3%

Nordman found, in the clinic at Basle, that the retention of placental tissue or membranes occurred two or three times more frequently when it was the custom to terminate the third stage within ten minutes than when they waited a half hour before expressing the after-birth.

Ahlfeld, who used the expectant treatment for one and a half hours, found it necessary to remove the placenta manually in 53 cases, or 0.78 per cent, which is equivalent to one in 128 cases.

Seyffarth reported from Olshausen's clinic, where Crédé's method is practiced conservatively, that in 9,465 labors manual removal was done 79 times, which makes 0.83 per cent, or 1 in 119 cases.

Clarke, in 1817 (Dublin), recorded 10,387 cases in which manual extraction was necessary only 21 times, which is 0.20 per cent, or one in 494. These cases were all managed expectantly, and the expulsion of the placenta was awaited from 2 to 24 hours.

Muennekehoff compiled the following from cases in the clinic at München, where the expectant treatment is advocated.

	Cases.	Manual removal.	Per cent.
1879-'83	5,000	42	0.75
1883-'92	3,500	8	0.23
1892-'96	4,811	16	0.16
1883-'99	5,000	32	0.32

(Marburg clinic)

Average0.57

Rosenthal, in a series of 12,000 labors at München (1890-1900), found manual removal in only 39, which makes a per cent of 0.3, or 1 in 309. This operation carried with it a morbidity of over 65 per cent (fever) and a mortality of 13 per cent. In this same series the mortality from Cæsarean section was 8.6 per cent; that from version was 4.8 per cent; and from the forceps operation 4.4 per cent. Hegar gives his comparative mortality as follows: Manual removal, 11 per cent; version, 7.7 per cent; forceps operation, 4.7 per cent.

If any further proof is needed I will simply state that Durlacher, in a recent article, has reported six cases where manual removal had been previously done, in some of the cases more than once, following treatment of the third stage by manipulations of the uterus. These same cases were subsequently treated expectantly with spontaneous expulsion of the after-birth.

It may be necessary to make one other point in this connection and that is this: The placenta, which are ordinarily removed manually, are not, in any sense of the word, abnormally adherent placenta. That a true adherent placenta does occur I cannot dispute, for a very few cases have been reported which have been confirmed by microscopical examination. It is usually not an adherent but a retained placenta, and this retention, whether partial or complete, is usually brought about by an overzealous mismanagement of the third stage of labor.

Thus far I have outlined the natural mechanism of this very important stage, and have tried to show how this may be interfered with by manipulations of the fundus. In addition you have heard how it is possible to determine whether or not the placenta has become separated. Statistics have been quoted showing that spontaneous expulsion, within a very reasonable and limited time, is the usual and not the unusual occurrence. You cannot fail to have noted the higher per cent of complications where manipulations of the uterus were used, especially when tried early in this stage. It is especially striking to notice how much less frequent retention of the placenta is when the expectant treatment is used. That is, of course, only one of the complications, but it is not an uncommon or infrequent one. The mortality and morbidity resulting from the treatment of this complication by manual removal, class it as the most fatal obstetrical operation. With all of this in mind it is certainly worth while to remember that the prophylaxis of expectancy is efficient in nearly all of the cases.

Crédé himself, who by the way, was not the originator but only the promulgator of the method which bears his name, advised, in his later years, that this method be tried after half an hour had elapsed, and not earlier.

It seems to me that there is a far more rational method of treating the third stage than setting an arbitrary time-limit for using any method of expressing the after-birth. Personally, I believe that the method of Crédé is one that should be used only as an emergency procedure.

How important the management of the third stage is considered may be gathered from the following words of Bunni: "The course of the puerperium depends as much upon the proper separation and expulsion of the after-birth as upon the antiseptic technic."

The more rational method, of which I spoke in

the management of the third stage, consists in leaving the uterus strictly alone, so far as manipulations are concerned, until the signs of separation and partial expulsion of the after-birth are present and positive. (It is of course understood that some emergency may necessitate active interference before the after-birth is detached.) These signs have already been given, so it is not necessary for them to be repeated. An outline of the management of the third stage may not be out of place.

As soon as the child is born, the mother's abdomen should be exposed, and if the fundus cannot be distinctly outlined with the eye it should be located by very gentle palpation and its height noted. The cord, after being pulled taut, should be carefully watched to see when advancement takes place. As soon as the cord has stopped pulsating, the part of the cord originally at the vulva can be marked with tape or forceps. By careful observation of the cord and uterus it is possible to tell when the placenta has become detached and slipped down into the lower segment or vagina. One must still be gentle, but by carefully pressing on the fundus with the flat of the hand parallel to the inlet or by having the patient bear down, it is possible to deliver the after-birth. If this simple maneuver does not express the placenta it is better to wait longer and note the signs of detachment more carefully.

If further evidence of more complete detachment, or perhaps of relaxation of some spasm of the lower segment, presents itself, try the same method again, and it will rarely fail to deliver the placenta and membranes. In reference to delivering the membranes, it is important to remember that part of the normal mechanism of their removal is from the weight of the placenta pulling on them. Personally, I do not like to deliver the membranes by twisting them unless they are in a sort of string, because it is not uncommon to enclose a blood-clot in the twisted portion, which interferes with easy exit through the lower segment and the vagina. By gentle traction and waiting they usually slide out without the use of much traction. Occasionally it has been helpful to use gentle traction on one portion and then on another, thus gradually teasing out the whole mass. It is possible to feel the difference between a sensation of tearing and slipping of the amniotic sac, and if the former is felt traction should stop at once. Remnants of the sac left in utero rarely cause any trouble,

but any placental tissue left should be removed within twenty-four hours.

In conclusion, I wish to quote a few lines written by Duncan in 1864: "From all this there follows the very valuable corollary, that in practice the third stage of labor should be left to nature and that, when interference is required, the natural mechanism of the birth of the placenta should be as closely imitated as circumstances admit."

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THE METABOLISM AND MODERN TREATMENT OF DIABETES*

By F. S. BISSELL, M. D.

MINNEAPOLIS

While it is manifestly impossible to adequately discuss this subject in the time at our disposal, I should be faithless to my subject, did I not at least briefly review the work recently done on the metabolism in diabetes mellitus. Thus I hope to be able to show a very definite tendency toward the ultimate solution of another clinical problem. A stupendous amount of research is being carried on with this end in view, and surely all of this energy is not being wasted.

I shall not soon forget the alternating elation and despair with which "Chemischer" Schmidt labored to determine the cause of variability in the dextrose-nitrogen ratio. Hidden from the world, as he was, in Von Nourden's basement laboratory, working for the fame of another, his enthusiasm was an inspiration.

Minkowsky had shown that the urine of the depancreatized dog maintained a constant ratio of 2.8 grams of dextrose to 1 of nitrogen. Falta later made the interesting discovery that if both pancreas and thyroid were removed, the ratio increased to 3.65 grams of dextrose to 1 of nitrogen. He believes that the adrenal, being left in a highly active state, secretes a substance which tends to promote the formation of sugar from protein.

Loewi holds that the reason sugar is not normally eliminated in the kidney is because of its chemical union with an unknown colloid. Any condition then which either overtaxes or

destroys this colloid union produces glycosuria.

Dr. Pavy, of London, has done some excellent and novel work in diabetes. He rejects the old glycogenic theory, which assumes the existence of quantities of free sugar, in the blood-stream, as unreasonable, untenable, and contrary to all experimental and clinical findings. A quantity of dextrose, even so small as 1-4,000 of the body-weight, injected intravenously, is entirely eliminated as a foreign body by the kidneys. It simply drains through, as water through a filter. Sugar taken into the stomach, on the other hand, does not materially affect the urine. Pavy holds that sugar is eliminated through the kidneys in exactly the same proportion as it exists in the blood, and that normal urine contains sugar too small in amount to reduce Fehling's.

He (Pavy) believes that there is a "missing link" in our knowledge of the process of absorption whereby sugar becomes so altered that it may be retained in the blood-stream.

It would seem to me that Loewi and Pavy ought to get together and make the colloid union of Loewi constitute the "missing link" of Pavy.

The latter contends, further, that glycogen may be directly transformed into fat, contrary to the views of Bernard.

Seegan thinks that sugar is formed from peptone, denying glycogen as its principal source.

The most marvelous feature of all the work which has been done along this line, is the find-

*Read before the Hennepin County Medical Society, March 7, 1910.

ing that a molecule of protein can yield sugar to the extent of 60 per cent of itself.

A patient with diabetes requires exactly the same amount of food that is required by a normal individual under the same conditions, usually about 35 to 40 calories per kilogram. In no case should a sudden and radical change be made from one diet to another, but, on the contrary, one should proceed carefully and determine as nearly as possible the tolerance of the patient for carbohydrates. This not only makes it possible to properly classify each case, but, in great measure, makes the prognosis. Lusk advocates placing the patient on a carbohydrate-free diet, and then on the second day determining the D: N ratio. He calls the 3: 65 to 1 ratio the "fatal ratio," but numerous cases are on record where it has not proven so under modern treatment. Of course the lower the ratio the better the prognosis.

The procedure followed in the Krause as well as in the Senator clinic in Berlin and the one which I have followed in my limited experience is to add to the standard diet 100 gm. of wheat bread and see what happens. If less than 50 gm. of sugar appears in the urine, withdraw carbohydrates and see if sugar disappears. If more than 50 gm. appears, do not withdraw carbohydrates from the diet, but give on the second day 75.0 wheat bread, on the third day 50.0, and on the fourth 25.0. Then if no diacetic acid or acetone has appeared withdraw entirely. If sugar disappears from the urine we know we are dealing with a mild form of diabetes. If on the other hand sugar persists in the urine on a carbohydrate-free diet but disappears when albumen is given in as large a quantity as 600 grams per day, the case is one of medium severity. The severest type of case is manifested by the persistence of sugar even under starvation treatment.

Doubtless an inheritance from an earlier conception of this disease, the practice still prevails in many quarters of placing every diabetic upon the standard carbohydrate-free diet regardless of his power of sugar combustion or tissue requirement. The patient either frankly rebels, surreptitiously resorts to the food which his tissues crave, commits suicide or develops acidosis.

It is the essential object of this paper to emphasize the necessity of determining the boundary of sugar assimilation in each case before beginning treatment. Having determined this point and the caloric requirement of the individual, the selection of a diet is quite simple if certain changes are borne in mind.

I. The danger of too much meat: I have already spoken of the prolific source of urinary sugar in albumen, a possible 60 per cent. That meat has a direct influence upon sugar excretion may be readily proven, and it is frequently necessary to materially reduce meat intake if one desires to stop sugar excretion.

It has been further shown that meat materially reduces a diabetic's tolerance for carbohydrates whereas one object of treatment is to increase that tolerance. Too much meat given for a long time will permanently reduce tolerance for carbohydrates and thus a mild case may be converted into a severe one.

A still graver danger of excessive meat eating is that it favors the development of acidosis in two ways, viz.:

By acidulation of the blood through oxidation of the sulphur and phosphorus of the albumen molecule to sulphuric and phosphoric acids and by the formation of acetone bodies. The first indication, therefore, upon the finding of oxybutyric or diacetic acid or acetone in the urine of a diabetic is to increase the carbohydrates and decrease the protein.

II. The danger of too little carbohydrate. When all is said regarding the metabolism in diabetes, the clinical fact still stands unassailable that it is not the mere presence of sugar in the blood and urine which causes death. It is rather the toxemia caused by the presence of degradation products of insufficient nitrogenous metabolism, diacetic acid and acetone. Thus certain nitrogenous bodies which, normally born to urea and other end-products, evidently require for this end the combustion of sugar.

When carbohydrates are withdrawn the organism is forced to manufacture them from the albumen of the food or of its own tissues. We find then an excess of N. in the urine over that ingested. This is a danger signal as it means that acidosis is impending. Such a signal is usually accompanied by the occurrence in the urea of acetone bodies and a large proportion of ammonia salts.

It is surprising how quickly these symptoms will disappear upon the administration of a little carbohydrate to cases on a rigid diet or a little more to those on a limited allowance of carbohydrate. It thus becomes important to determine the limit of toleration of each patient for carbohydrates.

If the case is a severe one, i. e., if sugar persists in the urine despite the complete removal of carbohydrates from the urine, then the albumin-

ous foods should be reduced and the deficit replaced by fats or in part by carbohydrates.

For reasons which have been suggested it will often be found that patients will excrete less sugar on a low protein diet with a little carbohydrate than on a high meat diet with no carbohydrate. That is, reducing the meat increases the patient's tolerance for sugar. It is not an essential object in the treatment of diabetes to secure entire absence of sugar from the urine.

To cover the caloric deficit which must ensue in thus restricting both carbohydrates and proteins, fat in one form or another is the mainstay of the diabetic. He should receive as large an amount of fat in his food as he can take. It not only spares the tissue albumens as does sugar, but on account of its high caloric value it is a great aid in maintaining nutritive equilibrium.

The objections usually advanced to the excessive use of fats in diabetes are that they may form sugar and that they may degenerate into acetone bodies thus producing acidosis. These objections are mainly theoretical as no increase of glycosuria dependent upon increased fat feeding has ever been demonstrated; and all experimental and clinical evidence is overwhelmingly in favor of the supposition that the acetone bodies are derived from albumen and not from fat. Butter may contain products convertible into acetone but these may be removed by washing. The problem then resolves itself into one of feeding as much carbohydrate and protein as the patient can assimilate and supplying any deficit with fats.

In 1902 Dr. Carl von Noorden happened to discover that certain cases of severe diabetes which failed to respond to any other diet, could ingest large quantities of oatmeal with marked benefit. Briefly stated, his belief is that carbohydrates in this form can be burned to a greater extent and with less danger than when taken in other varieties.

If acidosis is present or threatening the acetoneuria usually tends to disappear and the glycosuria to decrease on this diet even though the patient was previously on a diet as free from sugar as was technically possible. The technique of the von Noorden treatment is as follows: 250 gr. of oatmeal is cooked for about two hours on a moderate fire with three or four quarts of water and a little salt. To this gruel is then added 300 grams of butter and the whole is passed through a sieve. If there is no threatened acidosis 100 grams of egg albumen may be added. The mixture is then divided into eight equal parts and a part given every two hours so that

the entire quantity is consumed in twenty-four hours. Cognac, coffee (black) or wine may be permitted. The "oatmeal days", three or four in number, alternate with periods of about equal length called "vegetable days" and the treatment usually continues while there is improvement or until the patient's stomach rebels against it. It is customary to repeat the treatment four or five times a year. Thus tolerance for carbohydrate is maintained at as high a point as possible.

I desire to introduce at this point reports of two cases of different types which I have treated in this manner.

CASE 1.—Miss H., adolescent type, with 4 per cent sugar, polyuria, acetonuria, marked thirst and hunger and rapidly failing strength. Had been on the standard diabetic diet and was ready to seek repose in heaven or destruction in hell rather than endure it longer. She was placed upon the diet outlined above and given 15 grams of sodium bicarbonate three times a day. One week later the acetone had disappeared and sugar had been reduced to one per cent.

Upon her return to the country where she could not be kept under close observation, I placed her upon a diet rather low in protein, very high in fat and free from all carbohydrate except oatmeal. She was instructed to eat at least 50 grams of oatmeal with a large quantity of butter every day. At last report she was passing about 3,000 cc. of urine containing 15 grams of sugar, but was free from disagreeable symptoms, was gaining in weight and happy. So far as I am able to learn this is a new departure in oatmeal treatment and it may be that it will apply in a large number of cases outside of the hospital.

CASE 2.—An elderly woman referred by Dr. Hamilton of this city and now under observation, has been a diabetic for a great many years, and has been on the so-called standard diet for a long time. When I first saw her she manifested marked symptoms of acidosis—had in fact been in a semi-comatose state for about 24 hours. Because of nausea she had ingested no food for two days. The urine failed to reduce Fehling's, but both diacetic acid and acetone were present in marked quantities. As soon as she was able to retain food she was given oatmeal, butter and eggs in increasing quantity and her improvement was both rapid and remarkable, although sugar—30 gm. per 1,000—appeared in the urine. No reaction for diacetic acid or acetone. She was then placed upon the large quantities of oatmeal recommended by von Noorden alternating with vegetable days. At the last examination made after three

days of excessive oatmeal feeding, sugar had been reduced to two per cent. Her tolerance for carbohydrate seems to be greater than previously and her general condition is better.

I shall attempt to place this patient upon a general diet with few restrictions as I regard the case as a mild one which was being con-

verted into the more severe type by absence of carbohydrate from the diet.

It has been my purpose throughout this discussion to emphasize the necessity of a more careful selection of diet for this class of sufferers and to protest against the prevalent habit of handing every patient with sugar in his urine a diet list which contains no carbohydrate.

HOW NOT TO REQUEST THE EXAMINATION OF A PUBLIC WATER SUPPLY*

By H. A. WHITTAKER

Chemist in Charge of the Water and Sewage Laboratory of the Minnesota State Board of Health

MINNEAPOLIS

It is evident, from the character of some of the requests received by the State Board of Health for the examination of public water supplies, that a misconception regarding this work exists among many officials throughout the state. Whether these misconceptions have arisen from lack of publicity on the part of our Board, or from a lack of local authorities in familiarizing themselves with the proper method of procedure, is difficult at times to determine. It is true, however, that a bulletin issued by the State Board of Health explaining the points here to be discussed was distributed a few years ago. Evidently, the influence exerted by this publication has been in the most part forgotten and deserves repetition. Without a definite understanding of what the examination of a public water supply involves, the municipality desiring such an examination very frequently proceeds in the wrong direction. It seems to be quite definitely fixed in the minds of a great many people that in order to save the State Board of Health trouble and expense they must collect the sample of water and forward it to the Laboratory for examination. This is just what the Board does not want the local authorities to do. The examination of a public supply involves, primarily, a careful inspection of the environment of the supply, which is the real basis upon which the final report is made; and laboratory examinations are of use only to corroborate and check the observations made in the field or to extend investigations in some specific direction whose need is determined by the local conditions. Detailed field observations will often explain unusual laboratory findings, thereby

demonstrating the source of some harmless indication of pollution which might otherwise serve to condemn the supply. The field data may also show dangerous environments not indicated by the analyses, but through which sooner or later pollution may reach the supply and should at once be removed.

The matter of collecting representative samples from a given supply is one which frequently offers much difficulty. The collection of one sample, if improperly taken, may represent a condition local to some part of a system and not apply as a whole. The trained field-observer studies his problem carefully before even attempting to collect a sample, and the selection of points for sampling and the manner of collection require the utmost care. The Minnesota State Board of Health provides in its sanitary investigation chemical, physical, bacteriological, and, if necessary, biological examinations of the water. The details of procedure in each of these examinations vary in accordance with the problems involved, although a routine is followed in order to accumulate data which permits of comparison between various localities. From each sampling-point two samples are necessary, one for the chemical, physical, and biological examinations, and the other for the bacteriological examination. The first-named sample is collected in a one-gallon bottle with a glass stopper, and shipped to the laboratory for immediate examination. The bacteriological samples are collected in small sterile glass-stoppered bottles. The greatest of care is required to secure these samples under the varying field conditions without contamination. Considerable work is involved in preparing the bacteriological samples for ship-

*Read before the Minnesota State Sanitary Conference, Winona, October 12, 1909.

ment to the laboratories. This preparation is done by means of a small field-laboratory, about the size of an ordinary suit-case, which can be readily carried about from place to place. This preparation for shipment includes the immediate plating of the samples for the bacterial count and the starting of cultures for the determination of bacillus coli. All samples are then immediately expressed to the Laboratory for further examination, which takes from four to fourteen days for completion, depending upon the character of the examination and the results obtained.

From what has already been said it is readily seen that the sending of a trained man into the field to make an inspection and examination is absolutely essential. The improper collection of a single sample may cost the municipality thousands of dollars by condemning a perfectly good supply, or in loss of the lives of many individuals should there be failure to detect a badly polluted one.

We hope that the days of the "chemical magician" are over—that the chemist who can sit in his laboratory and receive samples from indiscriminate sources and, by a few simple manipulations, tell you the past, present, and future history of the water, also indicating the necessary changes in the system, is no more. The examination of a water supply requires the most careful vigilance on the part of the trained expert, from the moment it is begun until the final diagnosis is made and the report of findings forwarded to the proper officials for action or advice.

It has been my intention thus far to make clear, in a general way, the method of examining a water supply for sanitary quality. It can readily be seen by the preceding description that this branch of our work involves much more than is often imagined by the various people requesting examinations; and, further, that the collection of samples by untrained hands in the field is practically worthless. For example, various analyses made in our laboratory from time to time have shown conclusively that the composition of chemical samples shipped in bottles with cork stoppers is frequently changed by the absorption of organic material before it reaches the analyst. This does not include the possibility of unclean bottles being used for this purpose. With the sensitive chemical tests applied to the water after reaching the laboratory, an improper container may be the cause of condemning a perfectly good supply.

A very popular misconception regarding the

examination of a water supply is the impression that the bacteriological examination of water includes the isolation of the typhoid bacillus. Our routine bacteriological examinations include the isolation of the colon bacillus, if present, and a count of the total number of bacteria, but no attempt is made to isolate the typhoid bacillus. The isolation of bacillus typhosis from water is an extremely difficult problem with the methods now in use, and is one which is not undertaken by any of the competent sanitary laboratories. The presence of bacillus coli is now accepted as evidence of contamination from animal origin, and this organism is, as a rule, the important specific one which the bacteriologist attempts to isolate. The significance of the presence of bacillus coli in a specific water must be judged from the approximate number present, the relation this bears to the other findings, and the environment of the supply. The latter, which is judged from the field observations, may show quite conclusively that the origin of the bacillus coli present is from lower animals rather than from man, in which event a somewhat different significance is attached to the finding. Repeated examinations of a supply are of much greater value than the individual. The interpretation of unusual findings, both in the field observations and the laboratory analyses, is much simpler if the supply has been inspected at different seasons of the year and under varying conditions.

Our Board is constantly receiving requests from individuals for the examination of private water supplies. This work is not done by the State Board of Health except for an occasional examination which is essential in the study of an epidemic or some other problem involving special data of importance to the public. The present funds appropriated for the water work are far from being sufficient to care properly for our public or municipal work, to say nothing of an attempt to examine the supply of the individual.

The study of a public supply must not be considered as entirely local for that community. Data of comparative value for the rest of the state are secured. In special cases the study of a local problem may determine facts for general or specific application throughout the state.

Every municipality, before selecting a new source of water supply or before making any changes in its present system, should submit in detail its intentions to the State Board of Health. The plans proposed will be carefully examined, and the advice considered necessary will be sent to the locality. In this way unwise action on the

part of untrained though well-meaning individuals will frequently be avoided.

In case an examination is considered necessary by any municipality the reasons should be outlined in detail and forwarded to the Secretary of the State Board of Health. (Requests may come from such officials as health officers, city recorders, officials of water boards, superintendents of water-works, etc.) These requests when received will be carefully considered, and if an examination is justified a trained expert will be sent to the location at the earliest possible date. The data secured on the examination, together with such data as may be on file in the Board's office, from that locality, are considered carefully in conference by members of the staff, and the conclusion placed in definite form for executive action or advice.

My title was "How Not to Request the Examination of a Public Water Supply," and in concluding it will be well to briefly outline this.

First. Do not conclude without thorough investigation of all points that your water supply is questionable.

Second. On concluding that your supply is

questionable, do not collect a sample of water and send the same to the Laboratories of the State Board of Health.

Third. Do not ask the State Board of Health to examine the water for the typhoid bacillus, because this organism has been isolated from water not more than a dozen times in the whole history of sanitary work.

It may be well to follow the above with a brief outline of "How to Request such an Examination."

First. Make a careful examination of the problem to be considered by the State Board of Health.

Second. State the case definitely and give in detail the reasons for requesting the examination.

Third. Have these reasons sent over the signature of the authorized official to the Secretary of the State Board of Health.

If the above suggestions are carefully observed much valuable time will be saved and the Board can co-operate much more efficiently with the municipalities in need of assistance.

SEWERAGE AND WATER SUPPLY*

By J. C. BOEHM, M. D.

ST. CLOUD, MINN.

Ask any intelligent physician how much of his practice comes from patients suffering from some preventable disease and he will tell you that *nearly all* diseases are preventable. Tuberculosis is an avoidable and preventable disease, so is smallpox, chickenpox, typhoid fever, malaria, dysentery, whooping-cough, pneumonia, tetanus or lock-jaw, and hundreds of other diseases.

There are poisons, aches, and pains, shocks, burns and frost-bites, and wounds, and hundreds of troubles that afflict mankind and cause unending pain and suffering that can be either avoided or cured by spreading information and general knowledge of these troubles.

It is a lamentable fact that in many communities there is very little or no attention paid to the all important matters that pertain to and are the foundation of health or cleanliness; that is, sewage and proper water supply. There is an

old adage that says cleanliness is next to Godliness.

In the majority of small towns there is no systematic or co-ordinate plan for bringing about good sanitary conditions, and in a great number of the larger towns or cities affairs of sanitation are woefully neglected. Take cities where health boards are active, the simple process of keeping the streets clean is beyond the ability of the average city administration. The streets and lawns, if sprinkled at all, are sprinkled with polluted water; mud-holes remain for days, and water accumulates in the gutters and becomes the breeding-place of mosquitoes and millions of disease germs. In the long time between the cleaning, the streets are covered with all manner of rubbish, both unsightly and unsanitary.

If these conditions prevail in the mainly travelled thoroughfares, what do you expect to find in the alleys, to say nothing about the backyards where we find the privy-vault or cesspool, the collectors and reservoirs of all the disease germs cast off by the inhabitants and the household of

*Read before the Stearns-Benton County Medical Society at a public meeting held at Sauk Centre and St. Cloud.

the premises? When filled they are covered with a little dirt, and a new hole is dug, and so on. And what becomes of all this matter of decay and putrefaction, in which can be found millions upon millions of disease germs? It either settles into the ground or is washed along the surface and finally into the streams, from both of these places we get our supply of water we drink and use to cleanse ourselves.

Fortunately, nature has provided the ground and soil for a filter and the sun's rays, together with non-pathogenic germs, the saprophites, to purify the waters in the streams. But there is a limit to the soil's acting as a filter and the waters in our streams to become purified. Sooner or later the very soil and these waters become saturated with disease germs: it is only a question of time, unless we assist. There was a time when the waters in these streams were perfectly pure and wholesome. I remember when the water out of the Mississippi River was used for drinking purposes, and it was perfectly safe. Such a thing as a case of typhoid fever, winter cholera, and the like was unknown in St. Cloud and in fact throughout the entire state of Minnesota. Would you today drink water out of the Mississippi River or the Sauk River without sterilizing it? If you do, you take a great many chances of getting sick, which may cost you your life. Go back to the Eastern states and you will find a like condition. Would you have me believe that the opening up of a country by a civilized and intelligent people is a means of breeding disease?

Where then is the blame? It is found with you, your indifference, and in the medical profession. We tried to keep the knowledge that should have been disseminated and spread among the people years and years ago—we tried to keep it bottled up. But we must also remember that the medical profession knew less, in years gone by, about the prevention of disease than it does now.

What shall we do? What can be done? First, *prevent the contamination of the very air we breathe, by the products of decomposition*; second; *prevent the soil from becoming more and more contaminated*; and third, doing the above two things thoroughly, we may reclaim the ground we have lost, and again find the waters in the streams pure and wholesome.

Remove all matters that are capable of being decomposed, remove them from the vicinity of human beings promptly, before decomposition sets in, and treat them so as to prevent decomposition, or promote rapid oxidation.

The ordinary privy-vault or cesspool should never be allowed; they should be condemned. Their only excuse is cheapness and laziness. We must remember that burying disease germs does not destroy them; in fact they become a constant menace and danger to health by contaminating the water in adjoining wells and cisterns. If a vault or cesspool is a necessity it should be built or made water-tight and cleaned when full by one of the processes indicated. A large box made water-tight of two-inch plank and placed on runners so that it can be hauled by a horse serves very well, and it is cheap; and the same is true of the dry-earth closet, where the excreta are caught in a receptacle beneath the seat and covered with perfectly dry earth, when the handle besides the seat is raised. The earth used in these closets, of course, must be perfectly dry and sifted of all coarse particles, and enough must be used to completely cover the excreta and absorb the moisture.

The most perfect method of disposal of this waste and refuse matter, which insures prompt and rapid removal to prevent contamination of air during removal, and after their final disposition, is a water carriage. The matters referred to are conveyed from the house with the addition of sufficient water to insure its rapid flow through a series of pipes, tunnels, and canals, known as a sewer-system. This water-carriage system includes bowls or sinks for the deposit of refuse matter, and connecting pipes to remove them from the house into the public sewers, away from human abodes to the septic tank, which is simply a suitable receptacle in which the raw sewage may be confined for a time sufficient to permit the bacteria naturally present in it to decompose the solid matter and much that is already in solution. The time required for this process is about forty-eight hours. With a properly constructed tank or receptacle, about 75 per cent of the suspended solid matter will be removed.

The effluent in a septic tank may be disposed of in one or more ways: first, by precipitation with lime, aluminium sulphate, or sulphate of iron; second, by germicides, such as chloride of lime or copper sulphate; third, by oxidation.

An amount of chloride of lime sufficient to give from one to five parts available chlorine will remove at least 99.9 per cent of the total bacteria in a sewage effluent, while copper sulphate will remove from 90 to 95 per cent. Moreover, the chloride of lime is much cheaper than the copper sulphate and better suited. Whether we use the precipitation method or the combined

method of chemical sterilization and precipitation will depend on the locality and conditions present. But should authorities demand a sterile, as well as an oxidized, effluent from sewage disposal plants there is no question but that it will be found. But the end-results can be more cheaply, thoroughly, and satisfactorily obtained by combining a chemical germicide with chemical precipitation methods; for, as soon as the gardener or farmer finds out the value of this sterile precipitate as a fertilizer for the soil, he will pay not only for the removal of the same, but for the chemicals, septic tank, and all.

H₂O is pure water with absolutely nothing else mixed with it. But we use the term *pure water* in a relative manner. By it we usually mean water from which the sedimentary matters, and the pathogenic or disease-producing organisms and bacteria have been eliminated, together with the odor, taste, and coloring matter, to a degree, that has been set as a standard by the authorities on this subject. The natural purifying process of water consists of downward sedimentation and upward percolation by static pressure through dense layers or beds of sand, gravel, and the different strata of which the earth's crust is composed.

The work on nature's lines with the advantage of having the water delivered where required for consumption, is the proper and sensible basis on which to undertake the improvement of any water supply, either for the individual or a community. In addition to the absolute necessity of a supply of pure water to a community, as a sanitary measure, the thousands of uses which can be made to increase the commercial standing of any village or city are of great moment; for foul and polluted waters increase the working expenses of railroads, factories, laundries, power-plants, and countless branches of industry by frequent shut-downs to clean steam-pipes and flues, by the waste of fuel in heating water through scale-lined pipes, by loss of efficiency, or by the added expense made necessary in the way of coagulant tanks, economizers, and others of like nature. Hard water increases labor in the household and is ruinous to heating and industrial plants, while discoloration, odor, and taste are detrimental in a commercial sense; and last, but not least, health and human life are very greatly affected by an impure water supply.

Professor Ogden said: "River water which has been more or less polluted with sewage is not fit to drink, and the water board that deliberate-

ly selects such a supply without, at the same time, neutralizing the bad effects by installing a proper filter is practically guilty of manslaughter."

We have seen how we pollute the soil and streams; every inhabited watershed and farm-yard; every village and city increases the amount of pollution and contamination in the ratio of the congestion of its population. The entrance of sewage, refuse, and the ever-present decay of vegetable and animal matters, is only too well known. The human system ejects certain organisms, which, when reintroduced, cause bad effects and promote disease. It is by this means that typhoid fever and many of the other diseases are distributed. Drinking the disease-germ-infected water a healthy person may take them into his system and come down with the disease; but it is possible to purify the water from the streams, as well as the surface water out of wells, not only free from *disease germs*, but from other *objectionable* qualities and properties. It is not only *possible*, but it is our duty—the duty of those who have *charge of municipalities—the water board or the city or village council*.

One of the oldest methods for the filtration of water is known as the slow sand filtration system, in which water is allowed to percolate slowly through fine sand, coarse sand, gravel, and charcoal known as the filter-bed. It is three and one-half to five feet thick, depending on the condition of the water that is to be filtered. In a few days a slimy deposit of organic matter is formed on the surface of the filter-bed containing algae and various forms of bacteria non-pathogenic non-disease producing. It is this scum that is the true filtering material, the underlying filter-bed being for support only.

For several days after starting a slow sand-filter it is not in a fit condition for effective work. A gelatinous precipitate, after a few days, clogs the upper portion of the bed and allows for the more rapid collection of organic matter and course, however, carries the scum with it, and microorganisms. The water in its downward course, however, carries the scum with it, and in time, varying and depending on the temperature of the water, the filter-bed is contaminated to the point of final delivery. The more polluted the waters and the higher the temperature, the more the growth of the organisms is accelerated and the thickness of the film increased and the permeability decreased, thus necessitating increased filter-pressure, or "head," on the filter,

to ensure constant quantities of water being filtered.

A limit is reached when the pressure endangers the integrity of the film, for any crack or rupture in it will allow water to stream through the filter practically unpurified. The drawback recognized for this kind of filter is the size of the beds required, the irregular intervals of cleaning them, and the amount of labor and expense involved in constructing, maintaining, and cleaning them.

The so-called mechanical filtration system consists of the addition of coagulants to precipitate the organic matter, including disease germs. The cost of installing and the space required for this class of filter are much less, but maintenance is greater, and efficiency is less because of varying conditions and amounts of organic matter in the water, which requires an expert to constantly supply the coagulant needed in the varying quantities.

The Massachusetts state legislature authorized the State Board of Health to make experiments on both the purification of sewage and manufacturing wastes, as well as the purification of water. This experimental station is located at Lawrence, Mass. From this station we have recently a system of the municipal filtration of waters which consists of covered containers of reinforced concrete, so-called units, in which the raw water is received, and by static pressure it is forced through the inner chamber, the shell of which is also of reinforced concrete. A bed of slats is set at an angle of 45° , and on this bed is fastened a heavy mesh of galvanized-wire netting, on which rests a stratum of screened charcoal, which is covered by a fine mesh of copper wire. The copper wire is connected with the plus pole and the galvanized wire with the minus pole of a direct current to increase the electrolytic action to a point where it will kill the bacteria present in the water. It is the action of this electrolytic combination that assists in maintaining the aërobic conditions necessary to the elimination of bacteria. Resting on this copper wire is a heavy stratum of spheroids of pure silica sand, through which the water finally comes purified and devoid of color, taste, odor, sediment, and pathogenic organisms.

The principle upon which this operates is downward sedimentation and upward percolation, and is said to be self-cleansing with its own purified water. It is said to be an efficient system of moderate cost and can be operated on a limited area. Every square foot of filtering

space yields 360 gallons of pure water in 24 hours, while the slow sand filtration, with a bed of three and one-half to five feet deep, will filter only 70 gallons per square foot in 24 hours.

Taking New York City, where both of these systems have been used, 300 acres are needed for the slow sand-filtration, while only 80 acres are required for the municipal filter system. The estimated help required for the one while handling 400,000,000 gallons per day is 600 men, and 50 men for the other. At Albany, N. Y., the cost per million gallons by the slow sand-filtration is \$4.75, and by the municipal filtration system, 98c per million gallons.

In the City of Lawrence, Mass., prior to the establishment of the experimental station, the water supply was taken directly from the Merrimac River. The death-rate in that city was abnormally high, not only from typhoid fever, which was especially high, but from other diseases. In 1893 a slow sand-filter was constructed through which passed all of the water supplied to the city. The death-rate, not from typhoid fever alone, but from nearly every other disease, was immediately greatly reduced and has continued low since that time.

If we say that the typhoid fever death-rate is reduced by abandoning the polluted water supply, why shall we not say, also, that the mortality from other than the so-called water-borne diseases is reduced by an improved water supply? There is absolutely no evidence to show why we should not get consumption, diphtheria, pneumonia, la grippe, etc., from drinking polluted water? Freezing and the water do not kill these germs. The waters from the Sauk River and the Mississippi River have been found polluted almost to the source. Shall we try to reclaim what we have lost by filtering the water and preventing further decay and putrefaction on land by means of a proper sewer system?

In 1902 St. Cloud had an epidemic of typhoid fever which became so extensive that ten new cases came down daily. Not until the city was placarded by the City Physician, Dr. Dunn, and the people instructed to boil all the drinking water was the city aroused from its lethargy. By drinking boiled water, not only typhoid fever, but almost every other disease was wiped out of existence for a time. During this epidemic of 1902 St. Cloud had 563 cases of typhoid fever and nine deaths in one year. Taking the legal rate of \$5,000 for each life lost, and \$75 as the cost for each case of typhoid fever, St. Cloud paid in cash or death penalty \$87,225 during

this one year, 1902. During the past ten years we had 57 deaths from this disease alone, or a loss of \$285,000. Would this pay for a filter?

I find that St. Cloud has 392 residences connected with city water system and should have at least 816, while 236 places of business and 109 lawns only are connected and are using city water. We have 17 miles of water mains, 153 hydrants, and 32 stop-gates in our water works system. We have 6.4 miles of sewers and about 450 places of business and residences that are connected with it.

St. Cloud, with its sandy subsoil, needs 60 miles of sewers, instead of 6.4 miles, and should have the water-mains extended so as to accommodate its 11,757 inhabitants and their places of business. Let us purify the water supply, construct septic tanks, and treat the effluent in a manner most appropriate to meet our requirements, and condemn every privy-vault and cess-pool. If this be done thoroughly in St. Cloud and all along the watershed and banks of the Mississippi and Le Sauk Rivers, in a very short time we shall have reclaimed pure water, a soil free from disease germs, and obtained the conditions for good health.

When this is done, there will be no disease germs for the fly to carry, the milk-man to peddle, and the water to spread, nor for the wind to disseminate.

If such a region as Panama, formerly almost uninhabitable by white men, has been made comparatively safe, may we not hope that the time is near when, not only the typhoid fever and tubercle bacilli, but all disease-producing germs will have ceased to trouble the people of St. Cloud?

REPORTS OF SOCIETIES

A CORRECTION

In the report of the April proceedings of the Minnesota Academy of Medicine, in our last issue, Dr. J. W. Little should have been credited with the presentation of both specimens of gall-bladder and prostate gland, while the report credited another physician with the presentation of these specimens.

KANDIYOHI-SWIFT COUNTY SOCIETY

The society met at Benson on April 22, 1910, with seven members present.

This was an open meeting held in connection with the Minnesota State Antituberculosis Exhibition at the Benson Opera House.

Dr. Christian Johnson, of Willmar, and Dr. G. A. Newman, of New London, addressed the public on the tuberculosis problem. The people of Benson and community manifested much interest. The hall was crowded, both afternoon and evening.

The following were elected officers for the current year: President, Oscar Daignault, Benson; vice-president, Dr. John C. Jacobs, Willmar; secretary-treasurer, Dr. G. A. Newman, New London.

A resolution was passed favoring and urging the Owen's bill now before the U. S. Senate. The bill before the U. S. Senate introduced by Senator Cullom was discussed and favored providing it be amended so that the rights of the physician and those supplying him with opium, chloral, etc., be protected. G. A. NEWMAN, M. D., Secretary.

STEARNS-BENTON COUNTY SOCIETY

The society met at St. Cloud on April 21, 1910, with thirteen members present.

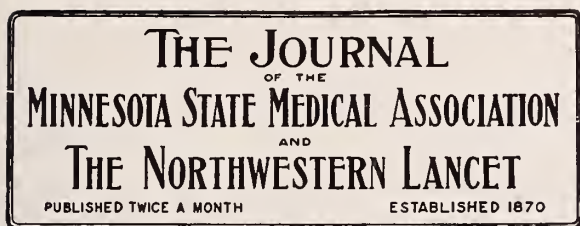
Papers were read as follows: "Actinomycosis Hominis," by Dr. J. B. Dunn, St. Cloud; "Malignant Neoplasms of Kidney," by Dr. William Friesleben, Sauk Rapids; "Mental Defectives," by Dr. O. H. Wolner, St. Cloud. The papers were thoroughly discussed and the important points made more prominent.

Election of officers for the ensuing year resulted as follows: President, Dr. J. C. Boehm; vice-president, Dr. Wm. Friesleben; secretary-treasurer, Dr. C. B. Lewis; delegate, Dr. W. L. Beebe; alternate, Dr. H. L. Lamb; censor, three years, Dr. Geo. E. Sherwood.

J. C. BOEHM, M. D., President.

ETIOLOGY AND UNDERLYING CAUSES OF PULMONARY TUBERCULOSIS

Walter Sands Mills takes up the question of tuberculosis as a disease that does not attack healthy lungs in persons not predisposed, and is often recovered from, as is shown by autopsies. The causes that predispose to it aside from heredity are whatever reduces the vital force and resistance. The greatest ravages of the disease occur in the prime of life when all the energies are in use for the struggle of existence. Domestic service predisposes women more than any other cause; inhalation of mineral and metallic dust, breathing devitalized air, other lung diseases, traumatism to the lungs, bad habits of living, and unhygienic workshops, all predispose to it. Prevention of the disease consists in keeping up the vitality of children and protecting them against infection.—Medical Record, January 22, 1910.



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DEPARTMENT OR BUREAU OF PUBLIC HEALTH

The letters that are printed below are in substance identical with letters received by the secretaries of societies and physicians who have written their congressmen in regard to the establishment of a department of public health under federal auspices. Various societies and organizations and numbers of physicians have endorsed the "Owen Bill," S. 6049, and have urged congress to pass a bill that will embody the principles of the one now before them.

The replies show the sentiment of the senators and congressmen from Minnesota, and also demonstrate the necessity of further effort from the medical profession to secure legislation during the present session.

Evidently, many of the members of Congress do not fully appreciate the difference between a department and a bureau. Under the present order of things the bureaus are distributed under various cabinet heads. Who would think of going to the Secretary of the Treasury or some

other cabinet member for information as to what may be done for the public health? The Secretary of Agriculture presides over animal industry, perhaps with good intentions, but why should the various bureaus be separated and made incoördinate? Why not combine them all under one department and make it possible to accomplish a working basis for the whole country?

The usual excuse is advanced, namely expense. When cattle and hogs are spreading disease there is a stir among the owners—and voters—who own afflicted animals, but when the people need protection and advice, procrastination and indifference are the opposing forces. It is fair to assume that the average congressman does not know any more about public health matters than the average state legislator, and a campaign of education should be constantly in the minds of physicians. Supposing a department of public health would mean the expenditure of ten millions of dollars annually, as well as the creation of a new cabinet officer.

The expenditure of such a sum would not seem excessive if one will consider the commercial value of the human lives sacrificed annually by preventable diseases. Deaths from typhoid fever, bubonic plague, and other diseases of this class, cost more every year than the sum asked for in protection.

Of course, there is opposition from various sources,—bureau officials, antihealth people, Christian Scientists, and others; but the majority of people would like to know that the government is interested in the removing of simple, preventable, and needless causes of death.

Now is the time to continue the agitations for a department devoted to all branches under one department head to preserve the lives of hundreds of thousands of human beings lost through carelessness and lack of federal control.

Read the following letters and think what you can do.

LETTERS FROM SENATORS AND REPRESENTATIVES

Washington, D. C., April 23, 1910.

Dear Sir: Your letter of recent date, urging passage of the bill introduced by Senator Owen to establish a Department of Health, is at hand.

I appreciate the importance of this proposed legislation and intend to give the subject matter of the same as much consideration and attention as my many duties will permit. Yours truly,

KNUTE NELSON.

Washington, May 3, 1910.

Dear Doctor: Yours of recent date at hand. Many are asking me to support the Owen bill for a Department of Health and others ask for a Bureau. There are

pressing demands for additional departments, which are cabinet positions, yet I cannot but feel we have quite enough. I would not let my predilections stand in the way of getting the highest efficiency, but am heartily in favor of consolidating all health functions into a bureau, with ample powers, without creating any more top-heavy, expensive departments. With kind regards, I am,

Very truly yours,

MOSES E. CLAPP.

Washington, D. C., April 23, 1910.

My Dear Sir: Replying to your letter of the 20th inst., in regard to the establishment of a National Department of Health, will state that I favor the general proposition, although I am not familiar with the so-called "Owen Bill," other than by hear-say. I presume this matter, which is a most important one, will receive the careful consideration of Congress. I do not know whether any bill looking to the accomplishment of this object will be reported to either branch of Congress at this session, or not, but if the proposition should be brought to the attention of Congress, having received a favorable committee report, I would feel inclined to support this legislation.

Very truly yours,

C. R. DAVIS.

Washington, D. C., April 23, 1910.

My Dear Doctor: Just received your letter of the 20th asking my support for Senator Owen's bill establishing a Federal Bureau of Public Health.

I have given this matter some little thought and am pleased to inform you that I am in sympathy with this movement and will be glad to support the bill.

Very truly yours,

C. B. MILLER.

Washington, D. C., April 23, 1910.

My Dear Sir: Your letter endorsing the Owen bill for the establishment of a Department of Public Health is received.

While I prefer a Bureau of Public Health rather than a department, I shall keep your letter in mind and you may be assured it will receive the utmost consideration at my hands. I remain

Very truly yours,

W. S. HAMMOND.

Washington, D. C., April 23, 1910.

My Dear Doctor: Your favor of April 20th in reference to Senate Bill 6049, is just at hand. I have not as yet fully studied this measure, and understand the bill is still pending before the Committee on Public Health. I have no doubt the general proposition is a good one, but there is a feeling that the government expenses must be curtailed at the present time, and that this will entail more expense. I shall be glad to give full weight and consideration to your views, and perhaps shall support the measure when it comes before the House, although I would not want to be bound by this statement until after a full hearing upon the matter. Sincerely yours,

FRANK M. NYE.

Washington, D. C., April 23, 1910.

Dear Sir: I have your favor of the 20th inst. relative to the "Owen Bill," and I shall bear in mind what you say when the time for action shall arrive.

Yours very truly,

H. STEENERSON.

Washington, D. C., April 23, 1910.

Dear Dr.: Your letter received relative to the establishment of a Department of Public Health. I have been much interested in this important subject for many years. The House Committee on Interstate and Foreign Commerce, of which I am a member, is considering bills now pending before it. I believe that before the present session closes a bill will be passed increasing the authority and scope of the existing Bureau of Public Health which will meet the general purpose of a Department of Public Health. There is always much opposition to creating a new department with its large number of officials and clerks involving great expense when a bureau which already exists, with additional authority and with little expense, can care for the same work.

Very truly,

F. C. STEVENS.

THE NEEDS OF CITY HOSPITALS

Dr. H. O. Collins, superintendent of the Minneapolis City Hospital, in an address before the Hennepin County Medical Society, touched the vital spot which shows the needs of many city hospitals all over the country.

The fundamental need in most hospitals is money. To carry on the work, to erect and equip buildings, means money generously provided. To stint and handicap an institution for the care of the sick-poor is nearly a crime, but to see that money is provided for institution work is often a difficult matter. Dr. Collins discussed the situation fairly and impartially, and finally laid the blame where it properly belongs, upon the medical profession.

In any city of considerable size and magnitude which boasts of its fine streets, parks, and buildings for the amusement or entertainment of its inhabitants, but which neglects to adequately provide for its helpless sick, the blame lies on the local city or county medical society.

Many people, among them physicians, never take the pains to investigate the needs of city hospitals, and Minneapolis stands out prominently in the neglectful class.

Not infrequently, the city physician is blamed for not providing buildings and beds; and even practising physicians have been known to berate the city physician for not being able to care for the sick-poor.

The Board of Correction and Charities suffers from the same senseless criticism, and, in turn, the Board of Tax Levy is abused for its indifference. Again, the cry for education and the arousing of personal interest in municipal hospital needs must be taken up.

Dr. Collins said what has been said before, that if every physician would educate his patients to the necessity of better hospital facilities, the voters who are tax-payers would willingly

bear an increased mill tax and thus enable the Board of Tax Levy to provide funds in abundance. As soon as the people understand and appreciate what is necessary all financial difficulties will vanish.

In other cities the people have been enlightened, and greater and more commodious hospitals are provided. The city of Toronto, for instance, a much smaller city than Minneapolis, has set aside \$5,000,000 for a city hospital. When the Minneapolis Board of Correction and Charities asked for \$350,000 they got less than \$50,000. The result is that the City Hospital of Minneapolis is wholly unprepared to care for an epidemic, and to its shame it is said that less than twenty-five beds are provided for contagious diseases. If Dr. Collins is right in his statements, and we know he is, the medical men who compose the largest county society in the state (more than 300) should take the kindly criticism to heart and should go forth and daily talk of the needs of the City Hospital. There should be no "knocking" by doctors. Every medical man, directly or indirectly interested in the care of the sick, must feel a solemn duty to perform: to urge the people to care for the poor in hospitals and to make the voter and tax-payer see that a large and well-equipped hospital to accommodate from 800 to 1,000 beds would be an ornament and an advertisement for the city of Minneapolis. The Board of Correction and Charities has learned something about hospital construction, but there is more to learn and more to do when the funds are available.

The influence of the family physician is tremendous, and particularly so if he is willing to urge appropriations for hospital needs. He becomes a politician of high order when he seeks the comfort and salvation of the sick.

THE TUBERCULOSIS PROBLEM

The world is studying an important subject, the suppression of tuberculosis. The one factor that has played an important part is the educational. To attempt to stamp out the white plague by concentration of all means in the hands of medical men or through boards of health, is a utopian effort. At present, and for years to come, it would be impossible. The only safe and consistent method is by the education of the masses through school-children, teachers, social, and philanthropic organizations, all co-operating with physicians. So far the methods employed have been attended with success, and no organization for the prevention of tuberculo-

sis has interfered with the work of the health authorities.

Occasionally, one hears a pessimistic physician make light of philanthropic attempts, which, if given careful attention, would show that optimism prevails.

In Minneapolis and St. Paul the organizations have interested men and women outside of the profession. The State Association is composed of physicians and laymen, and the funds to carry on the work of education and prevention have come from laymen, and have been distributed faithfully and always to good advantage. The Visiting Nurses' Association and the summer camps have done an inestimable amount of good. Hospitals for the care of the tuberculous have sprung up all over the country as a result of the earlier movement of these bodies of workers. The summer camps have proven their worth by providing fresh air, sunlight, and good food to a class of children who were huddled in close rooms, and have taken them away from unsanitary surroundings, and provided them with foods that were wholesome and nourishing, which were unattainable before. A sufficient number of recoveries have occurred that could not have been accomplished by any municipality under present-day facilities.

No one can deny the good accomplished by the combined efforts of lay workers and physicians who have given money and professional aid and advice.

The problem for the future is no easy one to solve. Continued education of the younger element, the growing classes, and the continued interest of those who give money for a good cause and the establishment of municipal hospitals, and, finally, the control of the disease by trained sanitarians under federal, state, or city health authorities, is the only probable solution of a problem that will continue through generations before the disease is finally stamped out.

The report from the Minneapolis visiting nurses for April shows attention to 126 cases of tuberculosis, as compared with 105 last April: 840 sputum cups distributed, 870 quarts of milk and 220 dozen eggs given and 1,253 visits to 431 patients.

THE ST. LOUIS MEETING

Physicians who expect to go to St. Louis next month are now making their reservations on the train upon which most of the Northwestern men will go. Have you made yours? If not, write to Dr. Todd at once.

BOOK NOTICES

MODERN SURGERY. General and Operative. By J. Chalmers Da Costa, M. D., Professor of Surgery and of Clinical Surgery in the Jefferson Medical College, Philadelphia. Sixth Edition, greatly enlarged. Pages, 1502. Philadelphia and London: W. B. Saunders Company, 1910. Cloth, \$5.50 net; half morocco, \$7.00, net.

This is a 1910 edition of a text-book which is well known, and has always been considered a standard in surgery. It has nearly outgrown the one-volume stage, as the present is a voluminous book of 1,500 pages. As the author states, the book grows larger with each edition and will soon have to restrict its discussion of the newer subjects, or change to several volumes. In addition to the old and well-recognized contents of surgical text-books, it contains discussions on the newer medical procedures which surgery has adapted to itself. For instance, such subjects as Wright's "Views on inflammation, opsonins, the untoward effects of sera;" Wassermann's "reaction for syphilis, the serum diagnosis of cancer, etc.;" and numerous similar subjects are more or less fully discussed.

The author has drawn liberally from other sources, and the work of such men as Crile on "Arteriovenous Anastomosis for Transfusion," Cushing on "Operations for Decompression of Brain Tumor," Murphy, Carrel, Matas, Bier, the Mayos, and Lorenz, is liberally described.

The work is dedicated to Dr. Wm. Stewart Halsted, to whom is ascribed much of the inspiration for progress in surgery. The book is complete in everything which pertains to surgery, is profusely illustrated with a very satisfactory selection of cuts, and has been brought down to date in its general subject-matter. It is a very satisfactory book for the general practitioner and surgeon.

NEWS ITEMS

Dr. G. A. Rogers, of White Lake, S. D., died last month.

Dr. W. L. Du Bois, of Towner, N. D., has moved to Montana.

Tag day at Duluth gave St. Mary's Hospital of that city nearly \$3,500.

Dr. G. W. Dahlquist, of Lancaster, has decided to locate in Mandan, N. D.

Dr. I. B. Seagley, of Presho, S. D., died on May 2d, of heart disease at the age of 48.

Dr. J. J. Ratcliffe has opened a hospital at Aitkin in a private residence just purchased for this purpose.

Dr. Duncan Carswell, who has been practicing a few months at Upham, N. D., has located at Bantry, N. D.

Dr. B. S. Adams, of Hibbing, and Dr. J. L. Shellman, of Nashwauk, will build a hospital at the latter place.

Dr. Oscar Stenberg, of North Branch, who has been doing post-graduate work at Chicago, has resumed his practice.

Dr. C. A. Lester, of Wabasha, has moved to Alexandria and formed a partnership with Dr. F. L. Kling, of that place.

Dr. J. T. Smallwood, of Worthington, State University, '08, was married last month to Miss Blanche Matheson, of Minneapolis.

Dr. Severn M. Kelly, State University, 1905, died in Mankato last month. Dr. Kelly has been practicing at Canby for several years.

Dr. Frederick Ghostley, who recently took charge of a hospital at International Falls, died at Anoka on May 3d, at the age of 26.

Dr. J. C. Cummings, of St. Hilaire, has been in New York City during the past two months engaged in special work, and will soon go abroad.

Dr. C. F. McComb, of Duluth, took a ten-days' fast last month, just to see how his own prescription would work on a competent observer. He liked it.

Dr. R. S. McMurdy, of Minneapolis, died the last of April at the age of 86. He came to Minneapolis in 1873, and has practiced here since that date.

Drs. Charles L. Greene and Walter R. Ramsey, of St. Paul, read papers at the annual meeting of the North Dakota State Medical Association last month.

Dr. Oscar Lowre, of the staff of the Norwegian Lutheran Deaconess' Hospital, of Minneapolis, has charge of diseases of the skin and genito-urinary organs, instead of children's diseases, as erroneously announced.

Dr. James J. Linn, of Minneapolis, died last month at the age of 84. Dr. Linn came to Min-

neapolis fifty-two years ago, and has practiced here since up to two years ago. He was one of the founders of St. Barnabas Hospital.

At the April examination of physicians seeking certificates to practice in Montana, 38 were successful and ten failed. Dr. S. A. Cooney, of Helena, was elected president of the board, and Dr. W. C. Riddle, of Butte, was re-elected secretary.

The Northwestern District Medical Society, of North Dakota, held a most enthusiastic meeting at Minot on April 19th, over seventy doctors, with their wives, were in attendance. A good program and a banquet with the best of toasts made the occasion one to be remembered.

The physicians from the towns lying between Fort Frances, Ontario, and Warroad, in this state, recently organized a medical society, and elected officers as follows: President, Dr. Frank H. Stuart, Baudette; vice-president, Dr. M. C. Crimmon, Rainey River; secretary and treasurer, Dr. D. McBane, Rainey River.

The U. S. Civil Service Commission will hold, on June 1st, an examination to secure a physician for the Pine Ridge Agency (S. D.). Examinations will be held at Crookston, Duluth, and Fergus Falls, in Minnesota; or Bismarck, Fargo, Minot, and Pembina, N. D., and at Aberdeen, Deadwood, Pierre, Sioux Falls, and Wattertown, S. D.

The following members of the senior medical class of the State University have received appointments as internes for one year at the St. Paul City and County Hospital: Clement C. Blakely, C. C. Allen, Alfred Hoff and Wallace Cole, beginning June 10; Justus Ohage, Jr., E. M. Watson, T. H. Dickson, Andrew Christianson, F. E. Cavanor, Charles G. Nordin and A. S. Hoeland, beginning Dec. 10. Carl E. Chatterton, of Northwestern University, received an appointment for two years, and Clarence Hopkirk, of the same school, was made pathologist for one year and an interne for a year.

ADDITIONAL NAMES FOR THE ROSTER

The following names of members of the Minnesota State Medical Association were received too late for insertion in the Roster, published in our last issue:

Adams, R. C. Bird Island
Ancker, A. B. St. Paul
Beaudoux, H. A. St. Paul

Bessessen, W. A. Albert Lea
Bettingen, J. W. St. Paul
Burns, F. W. Stewartville
Burns, R. M. St. Paul
Coon, George M. St. Paul
Eby, Cyrus R. Spring Valley
Geer, E. F. St. Paul
Larson, L. A. Montevideo
Linton, Laura A. Rochester
McCloud, C. H. St. Paul
Russell, H. R. Stewartville
Vittum, W. H. St. Paul
Walsh, E. F. St. Paul
Wesbrook, Frank F. U. of Manitoba, 1890

PHYSICIANS LICENSED AT THE APRIL, 1910, EXAMINATION TO PRACTICE IN MINNESOTA UPON EXAMINATION

Aanes, Almer M. Hahnemann, Pa., 1909
Anderson, Oscar H. U. of Minn., 1909
Asbury, Jos. Thos. P. & S., Chicago, 1902
Cannady, Earl Emory. Northwestern, 1909
Carstens, Christian F. Johns Hopkins, 1908
Ewens, Harry Brown. U. of Toronto, 1909
Gardner, Ray D. U. of Minn., 1909
Hall, Alex R. McGill, 1900
Hammond, Jas. Felton. McGill, 1906
Kerns, Howard. U. of Maryland, 1909
Lee, Thos. George. U. of Penn., 1886
Staley, John C. U. of Minn., 1903
Stewart, Zella Mildred White. Cornell, 1904
Tanner, Alvin Chas. Rush, 1910
Thornby, Hallward J. Hamline, 1909
Westbrook, Frank F. U. of Manitoba, 1890

BY RECIPROCITY

Arnold, Samuel Edwin. P. & S., Chicago, 1908
Baker, Looe, Jr. Rush, 1909
Bechtel, Raymond Emil. Northwestern, 1908
Brandon, Palmer E. Northwestern, 1908
Duckworth, John Carlton. P. & S., Keokuk, 1894
Fisher, J. M. Beaumont Hosp. Med. Col., 1899
Fugina, Geo. Romeo. P. & S., Chicago, 1908
Golden, Clarence M. P. & S., St. Louis, 1906
Lagerstrom, Francis G. Kansas Med. Col., 1899
Stanton, Frank W. Illinois Med. Col., 1906

[Notice.—A physician who offers his practice for sale through these columns is entitled to full information concerning an applicant, and unless this is given a reply may not be received, because a physician who sells the good-will of his practice is in duty bound to sell to a man worthy the confidence of his former patients, and to no other man will he make known his intention of changing his location.]

MOTOR BOAT FOR SALE

Thirty-five ft., 16 h. p. Westman 4-cyl. engine. Address R. R., care this office.

FOR SALE

An unopposed practice in a town of 500 in southern Minnesota on main line of railroad. Access to hospital where you can do your own work. Practice goes to the purchaser of office fixtures. A good opening. Address D. K., care of this office.

PHYSICIAN WANTED

A German physician is wanted to take charge of a doctor's practice for a month or six weeks in a North Dakota town of about 4,500 inhabitants. Address K. M., care of this office.

POSITION WANTED

speaks German, and has had hospital and general experience. Address M. M., care of this office.

A physician and surgeon desires a place as locum tenens or as an assistant to a surgeon or specialist:

FOR SALE

Complete office and reception-room fixtures for sale to doctor who will succeed me. Price, \$400 cash. Field is ample; only one other doctor in town, near Twin Cities. Excellent opportunity. Address G. B., care of this office.

FOR SALE

A \$3,000 practice in western Minnesota goes to purchaser of office equipment, complete, for \$400. No property to buy. Collections unusually good. Best location for a Scandinavian. Address B. L., care of this office.

WANTED

Man to take practice paying from 18 to 25 hundred yearly. New country; future prospects very bright. Will make terms to suit. An extremely desirable location for young man who can stand driving. Must be ready to take the place not later than June 1st. Address B. P., care of this office.

FOR SALE

A \$2,000 unopposed practice in southern Minnesota, ten miles from nearest doctor; fine farming country; collections 95 per cent. Practice and outfit, which includes team, buggy and cutter, \$700. Address B. R., care of this office.

FOR SALE

A \$5,000 practice in central-western Minnesota. No opposition of any importance; in thriving village of 800 surrounded by a farming and dairy country; large territory; country well settled with Scandinavians; collections good. Will sell practice and good-will alone, or other property; anything to satisfy buyer. Have practiced here 11 years. On main line of R. R.; 8 passenger trains a day. Best of references. Reason for selling: must move out to West coast on account of family's health. Will introduce purchaser. Address H. H., care of this office.

FOR SALE

Physician's office furniture, instruments, and good medical library, and other things necessary to a physician. A good location for a young doctor in a suburb of the Twin Cities. Sale made necessary by death of physician. Address M. S., care of this office.

FOR SALE

A practice established 23 years and paying between \$3,000 and \$4,000. The good-will goes to the purchaser of my property at \$4,500. Cash \$2,500 and balance in 1, 2, 3, and 4 years without interest. Located in a village of 600 in South-central Minnesota. Address F. G., care of this office.

POSITION WANTED

Woman physician with several years' hospital experience and surgical training, desires to become associated with a physician or surgeon in Minnesota or states. Best of references as to ability and professional standing. Address L. M., care of this office.

DEATHS REPORTED TO THE STATE BOARD OF HEALTH OF MINNESOTA FOR THE MONTH OF FEBRUARY, 1910

REPORTED FROM STATE INSTITUTIONS FOR MONTH OF FEBRUARY, 1910

STATE INSTITUTIONS.	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Acute Anterior Polio Myelitis	Typhoid Fever	Diarrheal Diseases of Children	Cancer	Eruptive Septicemia
Fergus Falls, Hospital for Insane.....	3	1	..	1	..	..	..	..	..	..	..	..	..	..	..
Rochester, Hospital for Insane.....	3	2	..	..	..	..	..	..	..	..	..	..	..	..	..
St. Peter, Hospital for Insane.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Anoka, Asylum .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hastings, Asylum .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Faribault, School for Deaf.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Faribault, School of Blind.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Faribault, School for Feeble Minded.....	3	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Owatonna, School for Dependents.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Stillwater, State Prison.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
St. Cloud, State Reformatory.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Red Wing, State Training School.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Minneapolis, Soldiers' Home.....	4	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Totals	18	4	..	2	..	..	..	..	..	..	..	2	..	..	..

REPORTED FROM 72 CITIES HAVING A POPULATION OF 1,000 OR UPWARDS
FOR THE MONTH OF FEBRUARY, 1910

CITIES.	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Acute Anterior Polio Myelitis	Typhoid Fever	Diarrheal Diseases of Children	Cancer	Puerperal Septicemia
Albert Lea	4,500	5,657	8														
Anoka	3,769	4,053	4		1												
Austin	5,474	6,489	6		1												
Barnesville	1,326	1,566	9		1												
Bemidji	2,183	3,800	1														
Blue Earth	2,900	2,364	2														
Brainerd	7,524	8,113	12		1												
Chaska	2,165	2,085	2														
Chatfield	1,426	1,300	0														
Cloquet	3,074	6,117	4	1													
Crookston	5,359	6,794	11														
Detroit	25,060	2,149	13			1				1				1		1	
Duluth	52,968	64,942	72	7	5	12		1	2	3	1			2	3	4	4
East Grand Forks	2,077	2,481	3														
Ely	3,712	4,045	1														
Eveleth	2,752	5,332	3			2											
Faribault	7,868	8,279	9	1		4			1					1			
Fairmont	3,440	2,955	2														
Fergus Falls	6,072	6,692	7	2		3											
Granite Falls	1,214	1,340	1														
Hastings	3,811	3,810	*														
Hutchinson	2,495	2,489	1													1	
Jordan	1,270	1,311	6														
Lake City	2,744	2,877	*													1	
Litchfield	2,280	2,415	6			2							1				
Little Falls	5,774	5,856	4	1													
Luverne	2,223	2,272	2														
Le Sueur	1,937	1,842	1														
Madison	1,336	1,604	2														
Mankato	10,559	10,996	13	1		2										1	
Marshall	2,088	2,243	0													1	
Melrose	1,768	2,151	1														
Minneapolis	202,718	261,974	293	39	4	33	1	12	2		1	2		32	10	26	3
Montgomery	979	1,281	0														
Montevidéo	2,146	2,595	4														
Moorhead	3,730	4,794	7			1											
Morris	1,934	2,003	0														
New Prague	1,228	1,419	3	1						1							
New Ulm	5,403	5,720	6				1										
Northfield	3,210	3,438	2														
Ortonville	1,247	1,612	2	1													
Owatonna	5,561	5,651	3	1		1										1	
Pipestone	2,536	2,885	3														
Red Lake Falls	1,885	1,797	0														
Red Wing	7,525	8,149	9														
Redwood Falls	1,661	1,806	0														
Renville	1,075	1,229	0														
Rochester	6,843	7,233	21	1		1										4	
Rushford	1,100	1,133	2										1				
St. Charles	1,304	1,238	2														
St. Cloud	8,663	9,422	5									1					
St. James	2,607	2,320	2														
St. Paul	163,632	197,323	170	17	3	9	2	7	12	5		1		3	6	15	
St. Peter	4,302	4,514	3	1													
Sauk Centre	2,220	2,463	0														
Shakopee	2,046	2,069	1	1													
Sleepy Eye	2,046	2,312	5							1						1	
South St. Paul	2,322	3,458	4			1			1								
Stillwater	12,318	12,435	13	1		2										2	1
Thief River Falls	1,819	3,502	1														
Tower	1,366	1,340	1														
Tracy	1,911	2,015	2						1								
Virginia	2,962	6,056	10	1		2											
Wabasha	2,528	2,619	2														
Warren	1,276	1,640	3			1		1									
Waseca	3,103	2,838	6													1	
Waterville	1,260	1,383	1			1											
West St. Paul	1,830	2,100	2														
Willmar	3,409	4,040	2														
Windom	1,944	1,884	1														
Winona	19,714	20,334	16	2			1				1			1	1		
Worthington	2,386	2,276	1	1													

*No report received. Health officer not doing his duty.

REPORTED FROM 65 VILLAGES HAVING A POPULATION OF 1,000 OR UPW
FOR THE MONTH OF FEBRUARY, 1910

VILLAGES.	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Acute Anterior Polio Myelitis	Typhoid Fever	Diarrheal Diseases of Children	Cancer	Puerperal Septicemia
Ada	1,253	1,515	1	1													
Adrian	1,258	1,184	1														
Aitkin	1,719	1,896	0														
Akeley		1,636	0														
Alexandria	2,681	3,051	3			1											
Appleton	1,184	1,321	2														
Belle Plaine	1,121	1,301	*														
Benson	1,525	1,766															
Breckenridge	1,282	1,850	3														
Buffalo	1,040	1,124	*														
Caledonia	1,175	1,405	0														
Canby	1,100	1,505	0														
Cannon Falls	1,239	1,460	1									1					
Cass Lake	546	1,062	3						1								
Chisholm		4,231	9	2		2									1		
Dawson	962	1,056	2														
Delano	967	1,023	0						2								
Fosston	864	1,000	1						1								
Frazee	1,000	1,146	0														
Glencoe	1,780	1,805	2														
Glenwood	1,116	1,713	*														
Graceville	856	1,032	0														
Grand Rapids	1,428	2,055	*														
Hallock	805	1,014	0														
Hibbing	2,481	6,566	10	2							1						
Jackson	1,756	1,776	2			1											
Janesville	1,254	1,205	1														
Kasson	1,112	1,049	1														
Kenyon	1,202	1,252	1												1		
Lake Crystal	1,215	1,231	2			1											
Lanesboro	1,102	1,041	1														
Long Prairie	1,385	1,256	*														
Madelia	1,272	1,290	*														
Milaca	1,204	1,319	3	1		1											
Mountain Lake	959	1,063	0														
North Mankato		1,129	0														
North St. Paul	1,110	1,400	1					1									
Olivia	970	1,019	1	1													
Osakis	917	1,056	*														
Park Rapids	1,313	1,719	1														
Pelican Rapids	1,033	1,095	2	1													
Perham	1,182	1,366	*														
Pine City	993	1,092	*														
Plainview	1,038	1,140	2														
Preston	1,278	1,320	1														
Princeton	1,319	1,704	*														
Rush City	987	1,041	0														
Rushford	1,062	1,040	1														
St. Louis Park	1,325	1,491	2	1				1									
Sandstone	1,189	1,589	0														
Sauk Rapids	1,391	1,552	2			1											
Scanlon		1,122	0														
South Stillwater	1,422	1,572	0														
Springfield	1,511	1,546	2														
Spring Valley	1,770	1,573	*														
Staples	1,504	2,163	1														
Two Harbors	3,278	4,402	2														
Wadena	1,520	1,868	3														
Wells	2,017	1,814	*														
West Minneapolis	2,250	2,530	1			1											
Wheaton	1,132	1,346	1										1				
White Bear Lake	1,288	1,724	1	1													
Winnebago City	1,816	1,553	*														
Winthrop	813	1,031	*														
Zumbrota	1,119	1,129	0														
State Institutions			18	4		2								2			
Other parts of State	1,012,328	1,085,886	621	52	9	65	6	13	7	5	1	9	8	12	26	38	8
Total for State	1,751,395	1,979,658	1515	150	26	159	13	39	28	15	3	14	12	57	51	104	17

*No report received. Health officer not doing his duty.

43 Still births and premature births, not included in above totals.

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OIL MAKES THE AUTO GO

The Van Tillburg Co., of Minneapolis, claim to handle an oil that makes "more power and less carbon" than any other oil on the market, and that means joy for the man at the wheel. Few owners of autos realize the difference between a poor oil and a good one, or between even a moderately good oil and a very high grade one. The price per gallon is about the same, but the cost in the end is not the same.

Just write the Company, and ask them to tell you about it.

THE RELIABLE OPTICIANS

The T. V. Moreau Co., of Minneapolis, has made an enviable reputation, both in and out of the medical profession, as a company that does things right. Their store is filled with everything beautiful and useful in their line; their help is courteous and efficient; and Mr. Moreau, the manager, is recognized as one of best and most progressive citizens of Minneapolis.

No customer ever leaves the store dissatisfied, and the physician who sends a patient to the Company may be assured that his prescription will be filled to the physician's credit and the patient's benefit.

DIETETIC FACTS IN TYPHOID FEVER AND GASTRO-INTESTINAL DISEASES

In typhoid fever, a disease in which the waste of the nitrogenous elements of the body is excessive and in which the function of assimilation is markedly impaired, Bovinine is of especial value, being very readily absorbed, for the most part from the intestinal mucous membrane. Not only is the excessive emaciation prevented, but during the whole course of the disease, the heart-action remains much stronger, and, owing to the prevention of the excessive waste and degeneration of the tissues, there is not the usual need for cardiac stimulants.

In acute gastritis, where all food is rejected, Bovinine in small quantities will be retained, and, being easily absorbed, allows the inflamed mucous membrane to regain its normal tone. In the treatment of chronic gastro-intestinal diseases, where emaciation and weakness are the most marked symptoms, the administration of Bovinine gives results that are most satisfactory. In these cases the effect may be noticed from the start, and is continuous and steady.

In carcinoma of the stomach, where all foods are vomited, Bovinine is retained, and actually prolongs life, preventing the rapid emaciation and starvation, and the pain and discomfort caused by indigestion of food.

THE MILK SUPPLY IN LARGE CITIES

When the milk supply of a city comes by train from distant points, the problem of handling so perishable a product in large quantities, is a very difficult one. Minneapolis is beginning to learn this, and chafes somewhat under the new conditions.

The writer recently went through the largest receiving and distributing milk-depot in the Northwest, that

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of the Minneapolis Milk Co. Although at the time of his visit there was much disorder, due to the overhauling and enlargement of the plant, he was astonished at the almost absolute freedom from any possible source of contamination to the milk. Every container is kept in a spotless condition, and the milk is actually renovated to free it from such foreign matter as gets into it at milking time, so that it goes to the consumer freer from dirt than when first milked. It is not even exposed to the air after leaving the can until it goes into the sterilized bottle in which it is delivered to the consumer. Modern mechanical genius can accomplish no more than has been done in and by the appliances used by the Minneapolis Milk Co., and it is almost a marvel that many thousands of gallons of milk can be received and distributed every twenty-four hours by one depot without the remotest possibility of ptomaine poisoning. The most careful dairyman could not approach such a record, and the Company is entitled to praise for its efforts in this direction.

ANTIMENINGITIS SERUM

After five years of exhaustive experimental work and extensive clinical trial, the Rockefeller Institute has perfected a serum for the treatment of epidemic cerebrospinal meningitis, and Antimeningitis Serum is now placed on the market by the H. K. Mulford Company and they are prepared to supply it from their various branch houses as well as from Philadelphia.

In the pandemic of 1904-8 the serum was supplied by the Rockefeller Institute to clinicians all over the world. The mortality of cases in which it was used was less than 25 per cent, that of cases in which it was not used about 75 per cent, the percentage being practically the same everywhere. Now that the serum can be obtained more promptly it will be possible to administer it earlier in the disease, and it is safe to predict that this will result in a still further reduction of the mortality. More than one thousand cases have been treated by this serum and no bad effects have been reported, the beneficial effect of each injection being dwelt on by all who have used the method.

The serum is supplied in packages the entire contents of which have been sterilized. Each package contains two syringes of 15 c. c. each, being the dose usually administered to young children, while for adults, or for malignant cases, 30 c. c. (2 syringefuls) are to be injected at one dose.

Every physician will welcome the news that they are now able to secure Antimeningitis Serum, because it is the only remedy known to be of service in the treatment of cerebrospinal meningitis.

The H. K. Mulford Company, recognizing their responsibility to the medical profession and wishing to co-operate with the members thereof by furnishing therapeutic agents for the treatment of poor patients, will, on receipt of certified order from the physician stating that he receives no fee for his services and that the patient is indigent, furnish the Antimeningitis Serum, without charge, except in communities where the local boards of health supply curative sera for indigent patients.

INTRAVENOUS INJECTIONS OF NUCLEIN IN TUBERCULOSIS

Edgar P. Ward (Medical Record, March 6, 1910) presents a new theory as to the action of nuclein in tuberculosis, in which disease he administers the remedy in a novel way. In every case of tuberculosis which he has examined within the past two years he has found a decrease in the specific gravity of the blood with a corresponding diminution of the percentage of hemoglobin. There is also a lessened number of red-blood corpuscles, with an increase of the deformed cells, or poikilocytes, as they are called. These changes are proportionate to the severity of the disease. As a consequence of the low percentage of hemoglobin there is a marked deficiency in the oxygen-carrying power of the blood.

This blood condition Dr. Ward has found to yield rapidly under the influence of intravenous infusions of a solution of sodium triticonucleinate, standardized to one milligram of organic phosphorus to each cubic centimeter. A physiologic salt solution is used as a vehicle.

Dr. Ward believes that the value of nuclein depends not so much upon its property of producing leukocytosis as upon its power of restoring the percentage of hemoglobin and of the number of red cells, while at the same time reducing the number of poikilocytes and increasing the specific gravity. In other words, the nuclein acts as a "blood-builder." That all these changes take place when the nuclein-saline solution is administered is shown by the author's detailed report of fifteen cases.

The nuclein-saline solution is given intravenously under strict aseptic conditions. The dose of the nuclein solution used varied from 30 to 60 minims. This is diluted with a salt solution consisting of calcium chloride, 0.25; potassium chloride, 0.10; sodium chloride, 9.00; water, 1000. One ounce of the mixture is allowed for each twenty pounds of the patient's weight, eight ounces of the combined nuclein solution being an average dose for a person of ordinary weight. The solution is introduced into the median cephalic or median basilic vein, about twenty minutes being required for the completion of the transfusion.

In practically every case thus treated there has been a rapid increase in the percentage of hemoglobin, while the number of erythrocytes and the percentage of poikilocytes were diminished. In the majority of cases there has been a corresponding improvement in the patient's condition, shown by the fall of temperature, slowing of the pulse, and increase of weight. In forty-eight cases thus treated, practically all advanced, Ward has had but five deaths. Nine patients out of the 15 cases reported in detail recovered, 4 were improved, and 2 died. These results are certainly unusual.

Dr. Ward's deductions are as follows:

1. If there is not a net increase in the percentage of hemoglobin in two weeks' time, we do not expect any permanent result.
2. Even where there is no net increase in the hemoglobin, the treatment aids in keeping these people upon their feet.
3. With a constant increase in the percentage of hemoglobin, when the same has reached 85 to 100 per cent, and remains at this point for one month after all treatment has ceased, the patient may be declared well.

Deaf Persons

after trying electrical and other devices find that the

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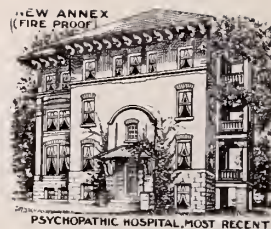


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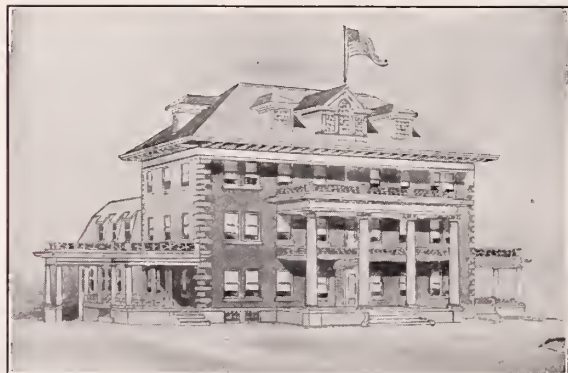
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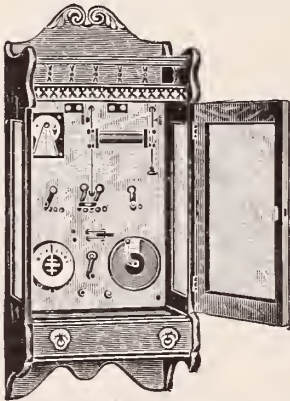
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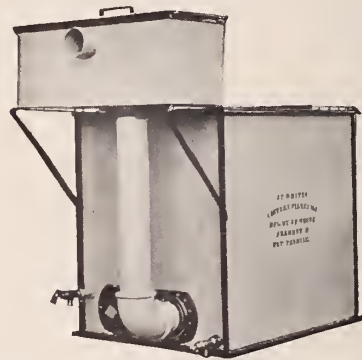
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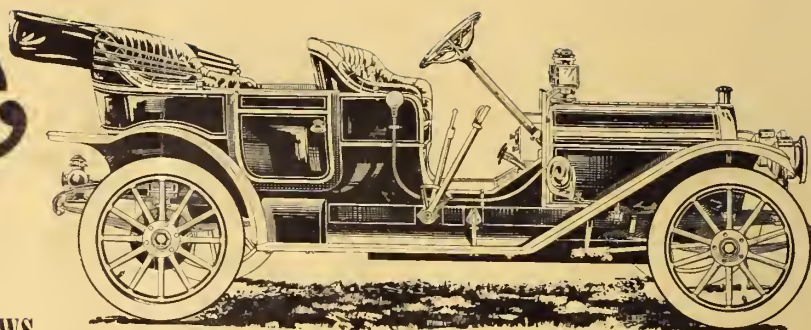
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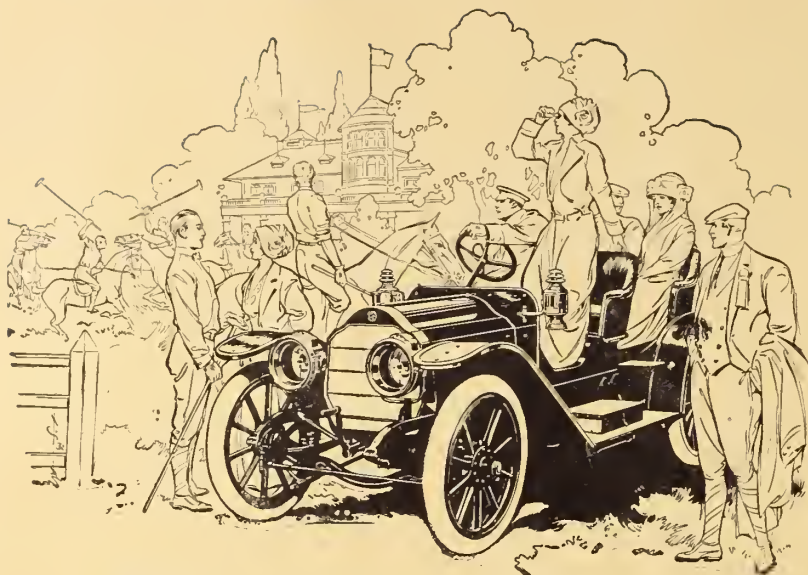
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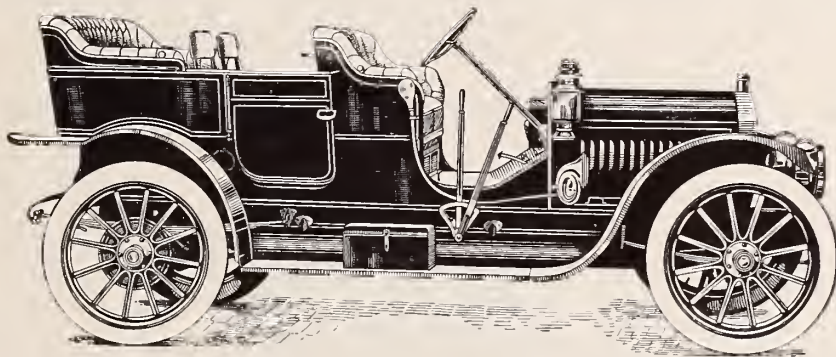
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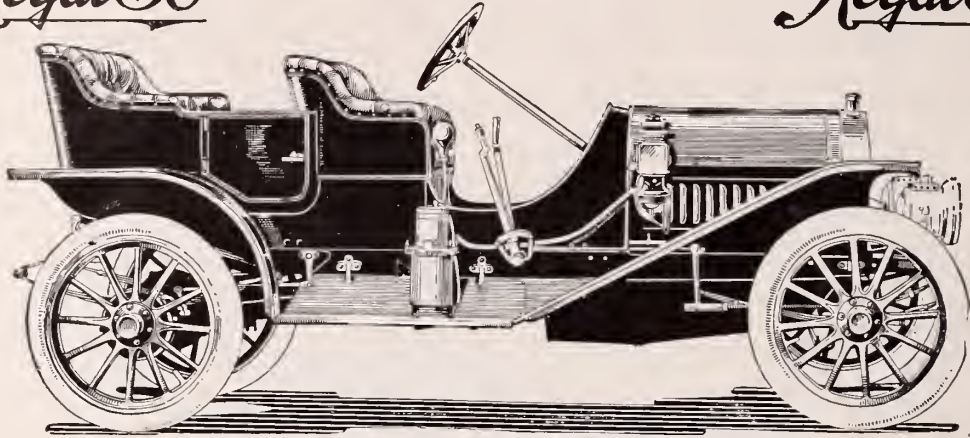
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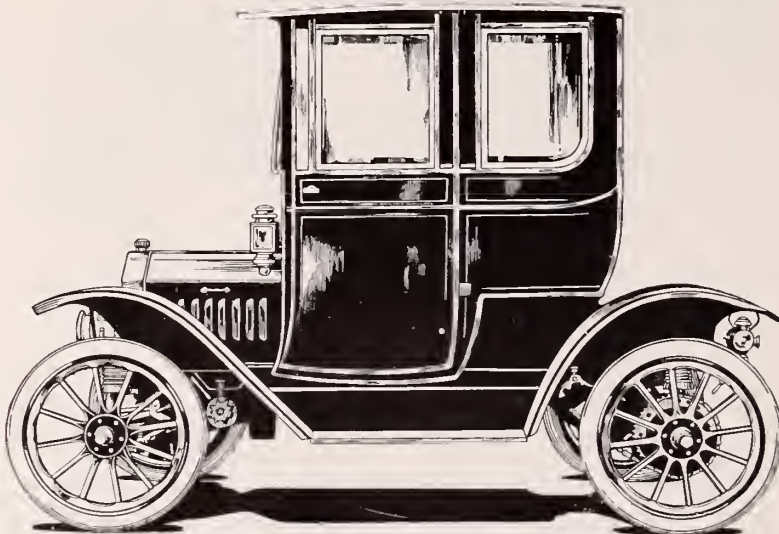
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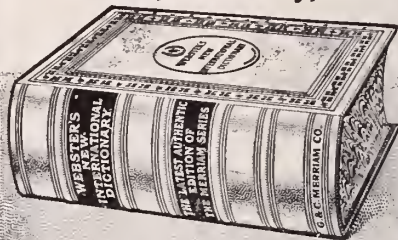
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SYMPOSIUM ON TUBERCULOSIS*

SERUM DIAGNOSIS AND SERUM TREATMENT OF TUBERCULOSIS

BY ROBERT EARL, M. D.

ST. PAUL

I have used serum in the diagnosis of tuberculosis during the past ten years. Of the various methods of using tuberculin in diagnosis: I have discarded the "conjunctival," as it is no more reliable than the vaccination-test, and instances of damage to the eye have been reported. It is useless in the case of children because when they cry the tears wash out the tuberculin.

With the tuberculin ointment I have had no experience, as it appears to me that it is inferior to the vaccination-test. I know, though, that the ointment is very much in favor, especially in this section, and that those who use it consider it equally reliable to the vaccination-test and much easier of application. The vaccination, cutaneous, or von Pirquet method has much in its favor, and has been described by the originator as follows:

"The skin of the forearm is scrubbed with ether, then two drops of undiluted old tuberculin are dropped about four inches apart from each other, then with a vaccinating lancet a superficial circular scarification is made between the two drops (for the control of traumatic redness following the small scarification). Finally the same scarification is made inside of the two drops. A few fibers of cotton are put on the drops, so that they will not flow. After five minutes the cotton is taken off. No dressing is applied. The scarifications are examined after

twenty-four to forty-eight hours, and if the tubercular scarifications are clearly different from the control scarification it is considered as positive, but the inflammatory area should measure at least one-sixth inch in diameter.

As this method is practically harmless no one need hesitate to use it.

It having been shown that about 40 per cent of adults who are clinically free from tuberculosis, re-act, a positive re-action does not deserve much attention. Its principal value in them depends on its absence, for it can be safely said that an adult who is repeatedly negative to this test is either free from tuberculosis or is suffering from the disease in an advanced stage, in which case the diagnosis should be readily made by other means.

It is of greatest importance in early life, as the liability of the presence of healed or latent tubercular lesions does not exist at that time. A positive re-action in a child below three years of age may be considered as almost absolutely diagnostic.

THE SUBCUTANEOUS METHOD

The hypodermic use of tuberculin as a diagnostic method should be resorted to only after all other methods of diagnosis have been exhausted. It should not be used in patients whose temperature by mouth reaches 100° or in patients with night sweats, great dyspnea, hemoptysis within a month, meningitis, or heart-disease. The kind of tuberculin most used is Koch's old tuberculin, which is the only kind with which I am familiar.

The adult dose recommended varies with different men, the average being from 1-5 mg. to ten mg. It has been my custom to start with one

*Read before the Twin City Medical Club.

mg. If I get no re-action, I give three mg. and after that five, and then ten. I have given larger doses without producing re-action.

In children 1-10 mg. is considered a safe initial dose. The patient's temperature should be recorded every two hours for two or three days before the injection and every two hours after the injections. The patient should be kept quiet, but not necessarily in bed. Three days should elapse between doses.

In a typical reaction the patient begins to feel indisposed about eighteen hours after the injection. This rapidly becomes more marked, and the patient is soon willing to go to bed. There will be severe headache, general malaise, pain in the back and limbs, loss of appetite; and in some cases nausea and vomiting, while in severe reaction profound prostration occurs. The temperature usually rises to 101° or 102° F. and sometimes much higher. The local re-action at the site of the injection consists of redness, swelling, and pain. The local re-action is considered to be of great diagnostic value.

How much importance should be given to reaction of tuberculin is an unsettled question. It is an established fact, both in medical and veterinary practice, that animals with advanced tuberculous lesions do not re-act to tuberculin, but there is no need for a question of diagnosis in such instances. In doubtful cases a negative tuberculin re-action means that the patient has no active tuberculous lesion. The interpretation of a positive re-action is not easy when one considers the large percentage of patients who react to tuberculin as in Brack's reports, for instance, which showed a positive re-action to 60.8 per cent of 2508 patients injected. These figures bear a striking resemblance to Burkhardt's statistics of 1262 autopsies on adults. Tuberculous lesions were found in practically all and showed signs of activity in 62.5 per cent.

Many diseases other than tuberculosis are said by some to re-act to tuberculin. It is a strange fact, however, that in spite of the many opponents to tuberculin so few post-mortem findings have been produced to uphold this view. In order to fully exclude tuberculosis such post-mortem findings must include microscopical examinations.

In concluding the consideration of tuberculin as an aid to diagnosis in obscure conditions where other methods have failed to furnish a positive diagnosis, I wish to urge the more extensive use of tuberculin, on the ground that when judiciously used, it is practically harmless,

that a positive reaction is a symptom worthy of consideration, and that a negative reaction is, for practical purposes, positive proof that there is no active tubercular process in the body.

THE SERUM TREATMENT OF TUBERCULOSIS

The serum treatment is becoming more popular. It should be administered to patients who are free from fever and in good physical condition. It seems to be of the greatest benefit in patients who have followed a hygienic-dietetic treatment and have gained in weight, and in whom fever has disappeared, although cough, expectoration, and physical signs remain, with tubercle bacilli in the sputum. It is of value in many cases of surgical tuberculosis where an operation is impossible or refused, also in cases where operation has failed to remove all of the tubercular foci. In my patients I have never been able to discover any injurious consequences from the use of tuberculin, although I know of men who claim such results. I have used Koch's old tuberculin exclusively, and nearly all of my patients have been office patients.

As a diluent I have used one-fourth per cent of carbolic acid in normal salt solution. I have had no difficulty in keeping the diluted solutions for about four weeks. The strength of the solutions used have been as follows: 1-10,000, 1-1,000, 1-100, 1-10, and full strength, I begin with 1 c. c. of the 1-10,000 solution increasing one c. c. at each injection until 9 c. c. are used. I then change to the 1-1,000 solution, beginning with 1 c. c. and increasing up to 9 c. c.; the 1-100, and then the 1-10 is used in the same way, after which the full strength may be used. Injections should never be given oftener than twice a week. The increase of the dose has divided the tuberculin camp into two sections, one headed by Wright, insisting that the increase of the dose, except in a very small quantity, is not necessary. They strive to produce an immunity which is indicated, not by the patient's resistance to tuberculin, but by the power of his leucocytes to produce phagocytosis of the tubercle bacilli. This is known as "Wright's opsonic index method." Because of the inherent difficulties connected with this method it is not generally used.

The other camp tries to produce immunity to tuberculin by gradually increasing the dose, claiming that if a patient can be immunized to tuberculin his cells will be able to resist and engulf and finally overcome the tubercle bacilli more readily.

By this clinical method every effort is made

to try to avoid a reaction which will occur if slight symptoms have been ignored and the tuberculin dose increased in spite of them. When reaction occurs it is well to stop the injections for a week and then begin with a smaller dose. If the patient becomes indisposed or "out of sorts" from a coryza, acute bronchitis, gastrointestinal disorders, etc., the injections should be discontinued for a time. The usual final dose of Koch's old tuberculin is 1 c. c. I do not believe that one should endeavor to reach this dose, but would stop when the patient begins to react, as an immunity to tuberculin does not mean an immunity to tuberculosis. Tuberculosis is a chronic disease, and there is no use of starting a course of tuberculin unless the patient is willing to continue the injections for at least six months or a year.

I have had no experience with the use of tuberculin in orthopedic cases, but I understand that most orthopedists do not use it.

SURGICAL TUBERCULOSIS

By E. M. LUNDHOLM, M. D.

ST. PAUL

The subject of this evening, given me to treat, is surgical tuberculosis. On account of the shortness of time and the immense volume of the subject, I shall be forced to exclude pathologic anatomy, symptoms, and diagnosis from my paper, and only, as far as time will allow me, devote my part of the evening to surgical therapy of the different forms of tuberculosis.

Regarding pulmonary tuberculosis there is hardly anything else than the pleuritic exudates that can be treated surgically. It is true that attempts have been made to remove a smaller or greater part of the tubercular lung, but such experiments might justly be called "surgical insanity," and no results to recommend repetition have been obtained. Other tests, for instance, Murphy's experiment to immobilize the affected lung by injecting nitrogen gas in the pleural cavity and thereby preventing the lung from following the movements of the chest-wall, are also almost forgotten.

In regard to tuberculosis of the brain and spinal cord, whether it is the solitary tubercle, which as a tumor encroaches upon the brain substance, or the tubercular meningitis, it must be said that the surgical treatment of the same is hardly justified. I have myself at one time on account of incorrect diagnosis trephined for tu-

bercular meningitis with the ordinary fatal result.

With skin tuberculosis (lupus) surgical treatment begins to enter its justified field. For ages a thorough curetting out of lupus masses, with or without subsequent cauterization, has been looked upon as a radical treatment. Small ulcers of lupus surrounded by healthy skin can, with advantage, be excised and healthy skin grafted on their base. I have also grafted healthy skin on extensive tubercular surfaces after having first only thoroughly curetted the same, and often with good results. Extirpation of tubercular masses, with consequent suturing of the edges of the wound, is almost always unsuccessful, because the tension in the tissues is too great, and if you succeed in getting healing by first intention, you will, in all probability, have rapid recurrence of lupus in the scar on account of the great tension. My advice is, consequently, after curetting out an excision of lupus masses, to let the wound edges retract as much as they will, and at once do skin grafting on the denuded surface. By this treatment we often get both the most permanent and the most beautiful results. What has been said of lupus holds good also for skin cancer. It is clear that very extensive surfaces of lupus cannot be treated surgically.

The beautiful results which, in later years, the x-rays and the Finsen light treatment have produced has shared the honors with surgery as therapeutic agents in treatment of lupus; and, many of the cases which formerly would have come under surgical treatment, can now both better and more permanently be cured through the above-mentioned agents.

Tuberculosis of the Spine.—The treatment of this ailment belongs nowadays to the orthopedists, and the results that they have obtained with extension and immobilization are, indeed, brilliant. Still, even here surgery holds its position at the side of the orthopedic treatment. Tubercular abscesses on the back, psoas abscesses, etc., which so often accompany tuberculosis of the spine often require surgical aid. Rational treatment of these tubercular abscesses is worth its own chapter. To treat them as other abscesses by incision in the lower end with drainage, experience has shown to be poor policy. I hardly know of any wound that so easily takes up mixed infection as a tubercular abscess after it once has been opened, and especially is this the case if it has also been drained and that even in spite of the most rigid asepsis. Often, after opening and draining a similar abscess, the patient who has

been afebrile before begins to suffer from a hectic fever, which generally lasts as long as the patient lasts, and he has now also a tubercular fistula, which lasts just as long. It is this mixed infection of the tubercular abscess that causes the fever, not the tubercular infection itself. Such is also the case with tuberculosis of the lungs. This has been my experience; and, in the beginning of my practice, probably more than one tubercular patient has been brought to a too early end on account of my ignorance in this respect.

How then ought those tubercular abscesses to be treated? First, do not treat them at all as long as there is some hope that the abscess may be absorbed by orthopedic immobilization and the extension treatment. Peculiarly enough, we have found that this orthopedic treatment is sometimes sufficient to absorb abscesses of considerable size. Secondly, when there is no hope any longer that the abscess can be absorbed, then it may be opened under the most rigid asepsis, but, if possible, not in the lower point, as is the case with an ordinary abscess, but in the upper end or, at least, as far from the lower end as possible, after which its contents are removed and the opening closed with one or two fine sutures. To inject iodoform oil or tincture of iodine in the emptied abscess is practiced; and I believe that I have seen good results from these injections. In case the contents of the abscess are thin enough, it is preferable to remove them with a trocar, but generally it contains cheesy masses which necessitate an incision, which, however, should be as small as possible. The reason why the opening should be made above the lower end is that after the abscess is once emptied we do not want drainage, and, if the contents collect again, it will not be so easy to break through the old incision and thus form a permanent fistula if that opening is made above the point of the greatest pressure. The abscess can be opened and injected several times, and the opening be closed as before. Of course, it frequently happens that we get a permanent fistula with all its consequences in spite of our attempts to prevent it, and the only consolation we then have is that we have conscientiously done our best to prevent this. This treatment of tubercular abscesses, not only from the spine, but from tubercular joints and tubercular abscesses generally, has, in connection with orthopedic immobilization and extension treatment, shown very good results in my hands. But, as the orthopedic treatment would take too much of my time, I have, during later years, turned over most cases of spinal and joint tuberculosis

to orthopedic specialists, and my experience in this subject is consequently of an earlier date.

I have had no experience concerning Calot's forced redressment of tubercular kyphoses.

Bone tuberculosis, which does not involve adjoining joints, has often, although incorrectly, been called chronic osteomyelitis. As common osteomyelitis is a disease *sui generis* and has not the slightest connection with bone tuberculosis, it is to be hoped that the two diseases may not any longer go under the same name. Removal of the affected part of the bone and of the tubercular granulations is the principal treatment.

Tuberculosis of Tendon-Sheaths and Bursæ.—Tuberculosis of the tendon-sheaths is often unfavorable as to prognosis, and many are the amputations performed after ordinary methods of treatment have failed to cure. Injection of iodoform-glycerine in the affected sheaths has never, in my experience, resulted in any cure, but the German method of total removal of the affected tendon-sheaths I have never tried. Total removal of tubercular bursæ I have many times performed with good results.

The treatment of joint tuberculosis, as well as of spinal tuberculosis, consists, at least in this country, principally of orthopedic immobilization and extension treatment. What has been said about the opening of tubercular abscesses from the spine also holds good to some extent, of abscesses from tubercular joints. To the surgical treatment of tubercular joints belongs also, as a last resort, amputation. In Europe,—at least years ago,—during my studies there, the treatment of tubercular joints was widely different from that in the United States. In Europe surgical treatment, the resections, occupied first place, and orthopedic treatment second place; whereas here the situation was reversed. Numerous are the resections I have seen performed abroad, while I have seen only a few since I came to the United States. But from European literature it seems that a change has taken place abroad during the later years, and that our European confreres are now more conservative and not so anxious to do resections as formerly. Let us take, for instance, a tubercular ankle-joint of a child. What result will a resection give? A crippled, ankylosed, painful joint, and a leg that in most instances with the growth of the child will be so much shorter than the other that a high orthopedic shoe must be used, and in most cases we do not get even this result, but the tubercular process continues in the wound; and, finally, as a last resort, the foot

has to be amputated. More often, in my opinion, the orthopedist will have good results by immobilization of the affected joint, and by patiently waiting for what nature will do. If, in spite of our immobilization, etc., the tubercular process progresses it may be advisable to amputate the affected foot without previous resection and replace the same with an artificial limb. Artificial limbs are nowadays made so perfect in the United States that the patient, in most instances, can get along with a similar limb better than with the best result after a resection. I do not deny that I have seen fine results after resections; but I believe that I have seen a larger percentage of fine results follow non-operative treatment.

Every one with some experience in joint tuberculosis has seen how much better the prognosis is when the arms are affected than when the legs are affected, evidently because the lower limbs must carry the whole weight of the body, and because the circulation there is poorer than in the arms.

Bier's treatment with stasis hyperemia, which in Europe has gained considerable reputation, does not seem so far to have made much of a hit in this country. In the cases in which I have tried this treatment the result seems to have been satisfactory.

Urogenital tuberculosis is, next to gland, lung, and joint tuberculosis, the most common. Here surgical treatment steps to the front. In case of unilateral kidney tuberculosis, nephrectomy is indicated, and, to avoid mixed infection, the affected kidney ought not to be drained first as was recommended years ago. As much as possible of the ureter, which is also generally affected, ought to be removed, and five or six inches of the same can, without difficulty, be taken out with the kidney and through the same incision. Even if both kidneys are affected, the one only slightly, the other nearly destroyed and causing high fever, one may be justified in removing the destroyed kidney; and several patients so treated by me have for months or years afterwards been more or less fit for work. Often, not only the kidneys, but also the ureters, bladder, and sometimes also the vas deferens and epididymis are affected. Whether surgical treatment of the tubercular bladder is justified or not is probably not yet settled. I have myself done suprapubic cystotomy in two cases of tubercular cystitis and thereby permanently drained the bladder for a few months, and thereby helped it to heal. The first patient recovered completely

and is still well, now about ten years after the operation; the second patient died about one year after the same treatment, and the operation did not seem to have the slightest beneficial effect upon him. Tuberculosis in the testis is rare, but much oftener does it occur in the epididymis. In many instances the testicle can be saved by removing only the epididymis or the tubercular part of it. Corresponding to tubercular epididymitis or orchitis in the male, we have, in women, similar tubercular affections in the tubes and ovaries, which also in suitable cases, require surgical treatment. Tuberculosis of those organs often forms abscesses, which, sooner or later, break into the bowel and with a minute opening remain in communication with the same, similar to a rectal fistula. The reason that operation on similar abscesses in the lower abdomen so often result in fecal fistulae in the operating wound is, that there is present this minute opening into the bowel, which is not recognized at the operation.

Tuberculosis of the mucous membranes occurs most often in the mucous membranes of the bowels in form of ulcerations, which sometimes leads to stenoses and make surgical steps necessary. Complete excisions of the bowels are not often indicated. It is better, by means of entero-anastomosis, to exclude the affected part of the bowel, which thereby gets the necessary rest and often heals up. Similar exclusions by means of entero-anastomoses are often the only thing we can do to heal up tubercular fecal fistulae. How often do we not see them follow appendix operations. To excise the affected part of the bowel and close the fistula is often not possible, because the tubercular masses extend way around the fistula, and it would be impossible to get healthy tissue to operate in without resecting quite a considerable portion of the bowel on each side of the fistula—an operation which very few of those patients stand. If, instead, we by means of entero-anastomosis, unite the ileum one foot or more above the ileocecal valve with the transverse colon, the contents of the ileum will make a short cut and not pass over the fistula which now, when feces no longer pass through the same, will gradually heal up or, at least, will no longer serve as an artificial anus. I have performed this operation several times with good results.

Tubercular fistulae in ano, which most commonly are formed through infection from the mucous membrane of the bowel, ought also to be considered with tuberculosis of the mucous

membranes. Their treatment is operative and consists in cutting through the wall between the fistula and the tumor of the bowel, even if the sphincter has thereby to be severed. Branching fistulae must be laid open and united with the main fistula. To prevent permanent incontinence of the anus the sphincter ought not to be cut through in more than one place.

Tubercular peritonitis has been divided into three forms; (1) the exudative, (2) the dry, and (3) the one which forms large tubercular masses. These three classes are not distinct, but overlap each other. The question whether this peritonitis ought to be operated on or not is still unsettled. The operation, which often consists only in opening the abdominal cavity, letting the exudate out and the daylight in, and sewing up the patient again, does not seem to be very rational, and still it is performed by many of our most prominent surgeons. The exudative form is probably the only one suitable for surgical treatment. I have myself performed this operation numerous times with excellent results. In analogy with the above-described treatment of tubercular abscesses, I do not here drain the peritoneal cavity, but I have seen that done many times, and I have come to the conclusion that drainage after operations for tubercular peritonitis is injurious. It is better, then, to repeat the operation after some time, if necessary.

Many think that tubercular peritonitis often originates from the appendix or from the Fallopian tubes, and that those organs ought to be removed, if possible, at the operation. Well, if the bowel around the stump of the appendix where the suturing is going to be done is healthy, appendectomy can be done without any difficulty; but if the appendix, except for its tubercular condition, is normal and the bowel around its base is full of tubercles, as often is the case, then I would not advise appendectomy, for fear of a

fecal fistula from the appendix base, afterwards. Indeed, I have in such cases several times seen fecal fistulae follow appendectomies several weeks after the external wound was healed up. I would give the same advice as to tubercular ovaries and tubes. Do not let your surgical zeal take the place of your common sense, by trying to remove large tubercular masses from the pelvic organs. Uncontrollable hemorrhages and fecal fistulae will often be the result, and your only gain will be valuable experience for the future.

Tubercular glands most commonly occur on the neck, but also in other regions as in the axilla, groin, etc. When the glands, in spite of general treatment and medication for months, continue to grow, surgical help is justified. The best method is probably to remove the whole gland bearing fascia. A longitudinal incision along the posterior edge of the sternocleidomastoid muscle and a more or less transverse incision below the lower jaw, gives generally sufficient room. The cutaneous nerves ought to be saved as much as possible, and the spinal accessory nerve must be cut under no circumstances. Abscess formations and more or less broken-down glands, in case they cannot be totally removed, are opened, treated with incision of iodine or iodoform-glycerine, and the wound sutured or, at least, not drained. As is the case with tubercular abscesses generally, many of the gland abscesses heal up by the first intention, if they are not drained.

Of course, the first and most important treatment of all forms of tuberculosis is fresh air, good hygiene, and proper diet, and after that comes the medical and surgical treatment.

If there is any moral to this paper I humbly wish to express it as follows: Drain as little as possible in operations for all forms of tuberculosis.

GOITER, WITH SPECIAL REFERENCE TO BORDERLINE CASES OF HYPERTHYROIDISM*

By M. M. GHENT, M. D.

ST. PAUL

The first patient shown is a boy fourteen years old. He has had measles and one attack of appendicitis. He was not operated on for the appendix trouble. For the last four or five years

he has been subject to hemicrania. He had this headache two or three times a month. It is not severe enough to keep him away from school. Hemicrania is very common in simple goiter, while in exophthalmic goiter it is very rare. It

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may seem strange why exophthalmic goiter patients do not have headache, but they do not.

His present trouble began about one and one-half years ago with shortness of breath on exertion. In running with the other boys he would be compelled to stop, in order to get his breath. Going up stairs was even worse. His mother noticed that he was short of breath while eating, and thought it was because he ate too fast. He has often been cyanotic while eating. About six months ago he noticed his breathing caused a rattling in his throat, especially after going up stairs or running. It was the dyspnea that brought him to me. On examination I found a well-developed individual of his years, a little over fat, with a fast, irregular heart. The pulse was 120 per minute, and the irregularity was quite noticeable. Aside from the irregular rapidity, the heart is negative. Dock says that Meunich gave the term "goiter heart of Rose" to the process associated with venous obstruction and distension of the right heart. Pressure on the nerves he terms "dyspneic goiter heart." Kocher calls these both "mechanical goiter heart" in distinction to true exophthalmic-goiter heart.

We have here a pure pressure-obstruction due to the low position of the goiter. This obstruction may be a cyst within the capsule of the goiter or it may be a parenchymatous enlargement of the gland. C. H. Mayo has had nine cases of each kind. A small cyst no larger than a hen's egg may give all the symptoms of a hyperthyroidism, due to pressure on the normal gland. The goiter is not large, as you can see, but it is low down behind the clavicle. The heart symptoms he has are due to the pressure on the trachea and to the obstruction to the return circulation. If the glandular enlargement had been a little higher, there would have been no pressure-symptoms and no obstruction to the venous circulation. Then, a small goiter back of the clavicle can cause pressure symptoms and dyspnea. We also get the same symptoms in the very large goiters. Kocher's second form of mechanical heart is shown when the goiter is large enough to press on the vagi nerves. He also says this class of cases should be studied very carefully, for all observers agree that, if the pressure symptoms cannot be relieved at once by medical treatment, the obstructing goiter should be removed. This is undoubtedly one class of cases that should be operated upon before the pressure destroys the rings of the trachea and before the heart muscle is degenerated, so complete recovery can never be expected.

Let us analyze the heart-findings here a little further and see where they differ from a true exophthalmic tachycardia. The pulse was 120. That certainly is rapid enough for an exophthalmic tachycardia, but it is also irregular. Irregularity never occurs early in the exophthalmic form. Osler emphasizes this fact. The irregularity in the nervous goiter comes late in the disease and is due, I think, to a myocardial degeneration. Before I am through I will show you a case of exophthalmic goiter with a pulse of 90, and there will be no question but that she has Graves' disease. This boy was cyanotic from the obstruction to the return flow. Exophthalmic goiters are never cyanotic, at least early in the disease; they are more anemic. The therapeutic test speaks against nervous goiter. With tinct. iodin painted over the gland, partial rest, at least no running, thyroid extract internally, with small doses of digitalis, the gland has reduced in size, the heart has quieted down to about 80, and the patient is feeling much improved. An exophthalmic goiter would not have reacted like that under that treatment. Going up stairs now, rather fast, will cause his pulse to run up to 100 per minute.

Position, and not size, is the important thing in this case. Dock remarks that even a small goiter, diffuse or nodular, should be looked upon as serious, because it may cause pressure on important organs, or may lead to extensive atrophy from pressure in a healthy part of the thyroid, with functional disturbances. This case is one for operation if medical treatment does not relieve all his symptoms in three or four months.

Since this paper was read before the Society the patient has noticed that he sweats very easily, much more so than formerly. This may be due to pressure on the normal gland, just as an adenoma of the thyroid may press on a normal gland and give symptoms of hyperthyroidism. Any case of simple goiter that begins to show free sweating should be observed very carefully to see whether it is changing to the exophthalmic form. This would make operative interference more necessary.

The next case is that of a young woman, twenty-three years old. She has had measles, mumps, whooping-cough, bronchitis, and pneumonia. As a child she was strong and well. Her mother has a very large goiter, and her sister also has one. About ten or eleven years ago she first noticed she had a large neck. It grew larger for two or three years. She painted on some tinct. iodin, under the direction of a physician.

The size reduced and she forgot all about ever having had a goiter till I asked her about it when she came to consult me about one month ago. She came to me because she was run down. She was nervous and thought she needed a tonic. She says she has always been nervous, but she does not think her nervousness was any worse when the neck was the largest. That was some seven or eight years ago. For a time, six or eight years at least, she has noticed that her heart would palpitate, especially if she was excited. She has never complained of shortness of breath. After she was through school she worked in her uncle's dentist office, and she says that when he had to pull a tooth or do anything that caused the patient pain her heart would palpitate so fast that she would have to leave the room. How different that looks from the "mechanical goiter heart" of the simple form. The latter is a dyspnea, due to exertion, the former is a palpitation due to excitement. It closely resembles the palpitation of fright, just as the facial expression in exophthalmic goiter, in some cases, resembles a frightened person. The patient claims the palpitation causes her to be nervous. Now, I think she is right. It is more than likely that the toxic material from the goiter affects the circulation first,—the heart, the capillaries, and the small arteries. The nervous system is probably next affected, then the skin, muscles, liver, kidneys, and other internal organs. The first disorder the patient has, then, is the hypersecretion of the thyroid gland, which gland is, in the great majority of cases, enlarged, but not necessarily so. Second is the palpitation, third the fine muscular tremor, fourth the sweating, and fifth the emaciation. Exophthalmos is a late symptom and often absent, as it is in this case. Myocarditis with irregular heart is a late symptom. Of course we are speaking of the chronic form.

In October of last year she first began to lose weight; then she was very nervous and lost eight or ten pounds. Last January the sweating began. That is the most disagreeable symptom. After the loss of weight in October she picked up again, but has lost again during the last few weeks. She is not subject to headaches.

To recapitulate the history: a young woman, nervous, palpitation of the heart, sweating freely with rather marked emaciation. On physical examination I found a pulse of 90, regular, with a short, quick pulse-wave, and a small diffuse goiter that she had forgotten. The muscular tremor was fine but positive. There is nothing abnormal to be found over the heart and lungs,

with the exception of the slightly accelerated pulse. There has been no gastro-intestinal disturbance. There is a distinct thrill over the goiter, and she complains of the vessels pounding and throbbing in her neck. With this history, in a young woman with a diffuse goiter, tachycardia, tremor, sweating, nervousness, and with the loss of weight, I did not hesitate to make a diagnosis of Graves' disease.

From the history this patient, undoubtedly, first had a simple goiter, which later developed into one of hyperthyroidism. C. H. Mayo thinks that ten per cent of Graves' disease develop from a simple goiter. He also says these cases offer the best surgical results.

When I had told the patient that she had a nervous goiter and that was what was causing her trouble, she went to her mother and told her what I said. The mother, who has a very large goiter and has had it for a great many years, said she did not believe it, that her goiter had never caused any trouble or needed any treatment; and she could not see why the daughter's small goiter should cause trouble or need treatment. I explained that the mother had a simple goiter, which very often never causes any trouble, but that the daughter had the nervous form of goiter with a rapid heart. The mother has not been convinced.

The third patient is twenty-five years old. He has had mumps, measles, diphtheria, pneumonia, and tonsillitis several times. Note that both these cases have had pneumonia. As a child he was very nervous. The nervousness has been worse for the last four or five years. Palpitation of the heart began about the time the nervousness began to grow worse. Two years ago he was ill four months, complaining of his heart and stomach. He saw several good physicians, and they told him he was nervous and run down. He lost twenty pounds during the four months. It is easy now to look back and say that this was an exacerbation of his hyperthyroidism. This was in the summer. When cool weather came he picked up, went back to work, and was soon back to about his normal weight. During this exacerbation he was very nervous. Last summer he had a severe attack of gastro-intestinal disturbance.

At present his appetite is good and he sleeps well. Most all cases of Graves' disease have a good appetite. The nervousness is his most disagreeable symptom, but it does not bother him so much in winter as in summer. This may be partly explained by the sweating.

In January, 1909, I saw this patient first in

his home suffering from an acute attack of follicular tonsillitis. His fever was high, and he was ill for several days. After his recovery from the tonsillitis he came to my office, and when I examined him he was very nervous with a large, fast, irregular heart. I thought he had a myocarditis, probably made worse by his recent attack of influenza and tonsillitis. Soon after this he returned to work when his employer asked him to see Dr. Sweeney for his nervousness. Dr. Sweeney told him at a glance that he had an exophthalmic goiter. When he came back and told me what the doctor had said you can better imagine how I felt than I can tell you. Since that time he has been under Dr. Sweeney's care, and it is through the doctor's courtesy that I am able to show the case here tonight. This was fourteen months ago, and if one had been looking for, or thinking about, Graves' disease he could not have possibly missed the diagnosis as I did. I think we seldom see what we are not looking for. Often we cannot find what we are looking for, but we often overlook a thing because we are not examining for that particular thing just at that time. When Dr. Sweeney first saw him he had all the symptoms of a severe form of hyperthyroidism. The enlarged thyroid was the least prominent, but when it was examined for, it could be seen to be enlarged. The patient had never noticed that the gland was enlarged. The heart at the same time was very fast, 120 and over. The pulse was quick and bounding, acting almost like the pulse of an aortic insufficiency. It was also irregular, but remember this is a heart in an advanced case of exophthalmic goiter. The exophthalmos was not so noticeable, but yet there was a peculiar expression about the eyes that would suggest that there was something that was not just right. He had a bright, dancing, peculiar expression in his eyes. Under Dr. Sweeney's treatment with thyrodoctin and a little electricity he has improved in every way. He is not so nervous, the pulse is from 88 to 112, but much higher under a little excitement, and he has gained in weight and is able to do his work as a bookkeeper. Dr. Harding carefully examined the eye-grounds of these two last patients to find if there were any choroidal changes. The findings were entirely negative.

Before we begin to discuss exophthalmic goiter I want to refer you to Dock's article in Osler's "Modern Medicine," Vol. VI, for the best dissertation on the subject in the English language. This article has been used by me extensively in preparing this paper.

The name *exophthalmic* is probably more often used in connection with this disease than any other, and I think it is on account of this name that the condition is so often overlooked. Exophthalmic is the worst name we could give it. Maybe all late, severe cases have exophthalmos, but it certainly is absent in many beginning cases. The symptom is one of only minor importance in the diagnosis. Parry was the first man to describe this disease, in 1825, but his report was meagre and never received much attention. Graves, in 1835, wrote a good description, and the English insist that it should be known as Graves' disease. In 1840 Basedow gave the best understanding of the disease. Wherever German is the accepted language it is known as Basedow's disease. Kocher wants to call it thyrotoxicosis, but C. H. Mayo's name seems to me the best, *hyperthyroidism*, over cell-activity. That describes the disease-picture the best of any name mentioned.

The assumption that goiter and cretenism are caused by drinking water in certain geological formations, has been proven experimentally by Wilms in his surgical clinic at Basel. The experiments were made with dogs, rats, guinea-pigs, and monkeys; and enlargement of the thyroid followed ingestion of water from certain springs in regions where goiter is endemic.

Etiology.—The disease is six or eight times as frequent in women as men. It is a disease between the age of puberty and forty years old. Dock says it is not an infrequent disease and well marked cases are often overlooked, as happened here with me. The acute infectious diseases, worry, fright, and especially tonsillitis are some of the things that seem to predispose to this disease. This last case has bad tonsils, and they have bothered him a great deal. The tonsils are now receiving much more attention as a cause of many diseases than formerly. Fright and worry may lead to hyperthyroidism in some cases, just as they do to diabetes in others. Whether the above-named conditions are etiological factors, or whether they serve to weaken an already over-sensitive nervous system, has not yet been proven. An influenza does not always cause a myocarditis, but very often it does do it. In just the same way an attack of influenza in the right individual may bring out the latent signs of hyperthyroidism. Dock quotes Kocher as saying that 80 to 90 per cent of school-children in Bern have goiters. Just as the first enlargement of the thyroid gland may be seen in pregnancy, so can a hyperthyroidism develop during pregnancy, but a pregnant woman with

Graves' disease may improve during this time to grow worse afterwards. (Dock.)

Before we consider the pathology let us review what O. T. Osborne says about the function of the normal thyroid.

"This gland is best understood of all the ductless glands, and its functions are so many and so diverse that the story of its physiological activities seems scarcely believable. Its specific activities may be summed up as follows: A perfect secretion of the thyroid is necessary for the proper bone and mental development of the child, and the proper mental condition of the adult; for the proper relationship of the amount of fat to the rest of the body; for the proper health and functioning of the skin; for the proper health of the teeth, hair, and nails; for the proper menstrual and maternal functions of women; for the proper nitrogenous metabolism of the body; and for the prevention of nitrogen toxemias.

"While this gland is present at birth and functioning throughout childhood, it is most fully developed and active from the age of puberty to the age of forty-five. From that time its secretion is decreased until the gland atrophies in old age.

"Besides its internal secretions, the thyroid produces a colloid substance which seems to be a storehouse for some of its activities. It acquires and stores iodine, and iodine is necessary for a part, at least, of the proper functioning of the gland.

"Extracts from the thyroid lower blood-pressure and at the same time increase the rapidity of the heart. The polymorphonuclear leucocytes have been shown to be decreased by the feeding of thyroid, and, at times, the lymphocytes to be increased, while the whole number of white cells is diminished."

Pathology.—Kocher, in "Keen's Surgery," Vol. III, says "The changes in the nervous, vascular, and sympathetic system are functional or degenerative. In actual fatal cases we find degenerative changes in the heart, blood-vessels, liver, kidneys, muscles, mucous membranes, and serous membranes, which are the same as those seen in other intoxications. The only positive signs of functional alteration, which are present in every case, are found in the thyroid gland. These changes are present both in the very early stages and in the typical forms of the disease."

To understand hyperthyroidism better let us look at hypothyroidism or cretinism for a moment. One is an over-secretion and the other is

an under-secretion of the thyroid gland. To quote Moebius: "In myxedema the thyroid is small, in Basedow's disease large; in the former the circulation is sluggish, in the latter accelerated; in the former the skin is cold, dry, and thickened, in the latter thin, warm, and with unusual sweating; in the former the mind is sluggish, in the latter weak and irritable." C. H. Mayo says the essential feature of the condition is, that the whole of the gland, or only a part, shows an over-activity from the cell changes. Microscopically they show papilloma with new cells, which project into the lumen of the vesicles through the gland.

The symptoms are variable, depending upon when the case comes under observation and the stage of the progress. If we wait to make a diagnosis in every case till tachycardia, tremor, muscular weakness, a large goiter, and exophthalmos are present, we shall overlook many early cases and lose the best opportunities to give complete recovery to most of them. If exophthalmos is a late manifestation of the toxemia and an enlargement of the gland not necessary, on what are we justified in making a diagnosis? All agree that tachycardia is the first and most important symptom, and no case can be diagnosed without this symptom. Next most important is the muscular tremor, which is also a constant factor. These two symptoms must be present or the diagnosis cannot be made. Then either an enlarged gland or exophthalmos and the diagnosis is as easy and certain as any in medicine. Without goiter or exophthalmos there are other symptoms in the early cases that may be found. Sweating is very suggestive and should always make us think of hyperthyroidism. The eye-symptoms, the gastro-intestinal disturbances, the vascular changes in the neck, along with extreme nervousness and emaciation, make a disease picture that does not resemble anything else.

All cases of rapid heart are not Basedow's disease, but it should cause us to exclude any possibility of hyperthyroidism before we look further. With the tachycardia there is the pounding, throbbing, high-tension pulse. Some think the dilatation of the small arteries and capillaries reduces the amount of blood in the heart and large blood-vessels, and this causes the rapid heart. If that were true the blood-pressure would be low. A toxemia will explain both the high blood-pressure and the rapid pulse. Later in the progress of the disease, as has been mentioned, a myocarditis develops, and the blood-pressure is

low. The diagnosis of hyperthyroidism may be very easy, or it may be impossible, depending on the stage of development and on the symptoms present. The acute cases are the hardest to recognize. Osler spoke of one case that died three days after the onset of the illness. If we consider that the disease may reach from almost perfect health to death, it is not difficult to see how it will be hard to recognize many of the borderline cases. Mild cases are often overlooked because we are not thinking of hyperthyroidism. The beginning cases are the ones that should be diagnosed, for in those cases the prognosis is the best if the disease is recognized and the proper treatment carried out. I venture to say that the average busy general practitioner overlooks more of these cases than he does pericarditis with effusion. Pericarditis with effusion is used because Osler says it is the most commonly overlooked disease in medicine.

Beginning tuberculosis with little lung-findings has to be differentiated. Both have a fast pulse, sweat easily, loss of appetite, and loss of weight; and both have exacerbations. In the early cases neurasthenia is the hardest to differentiate, because many neurasthenics have rapid pulse, especially if it is neurosis of the heart. Dr. Ball has observed that the rapid heart of a neurasthenic is not uniformly rapid. If they are in bed the pulse will vary, being sometimes fast and then again slow. He thinks the rapid heart of hyperthyroidism is a constant factor and is rapid all the time. Probably, beginning cases of hyperthyroidism are more commonly thrown into the neurasthenic group than in any other class, because a careful examination is not made and the case is called one of neurasthenia because it does not fit into any other class very well. As we learn more medicine we are calling less of them neurasthenia. Myocarditis, in an advanced stage, resembles hyperthyroidism very closely.

The treatment of these cases is both medical and surgical. C. H. Mayo states that 25 per cent of cases of Graves' disease get well with treatment, without treatment, or in spite of treatment. He thinks many of these cases recover that never see a physician or surgeon. Osler treats these cases three months, and if they are not well he recommends that they be operated on.

Herricks writes that if these cases are a true hyperthyroidism thyroid extract is contra-indicated, yet he says that cases sometimes do well under this treatment. Thyroidectin seems more rational for these cases. Always paint on tinct. iodine and instead of thyroidectin Lugol's solu-

tion may be given, seven or eight drops, t. i. d., in a little water.

The question now arises, what are we general practitioners, for we are the ones who see the bulk of these cases early, going to recommend to these patients that come to us with hyperthyroidism? The first thing is to recognize them. Shall we treat them indefinitely till the heart-muscle is degenerated, the pulse is rapid, weak and irregular; or are we to turn them over for operation while they are in good condition, before the kidneys are degenerated, also the liver, pancreas, muscles, and other internal organs? If we follow Osler, who claims the condition is surgical, we shall turn them over after three or four months' trial with medical means, i. e., those cases that are operable. Acute cases are not operable, nor are cases that are too far advanced. Very mild cases do not require operative interference. When the blood-pressure is very low operation is contra-indicated. If severe cases are to be operated on, they are to be put to bed, given plenty of rest, and built up before being subjected to further strain. Operation on this class of cases brought the operation its first fatality and the severest criticism. Carefully examine all these cases for sugar in the urine. Sugar is generally a contra-indication to operation.

Kocher, the father of goiter operation, living in Bern, the home of goiter, says they should all be operated on if not too far advanced when the case comes under observation. He has operated on over three hundred with a death-rate of three and one-half per cent. In his last 152 cases he lost two patients, a percentage of one and one-half. C. H. Mayo, who has probably operated on more of these cases than any other man in the world today, and who stands second only to Kocher, says there is no longer any question about what to do with these cases, and that is to operate on them.

If surgery offers better chances of recovery than medicine why hesitate, and yet I asked a leading physician in St. Paul a few days ago just when these cases should be turned over to the surgeon, and after studying for a minute he said he did not know. He is a physician who has given a great deal of time and attention to these cases, all of which goes to show that it is no easy matter to decide just what cases should be operated on and just which should not. If there is no question about the diagnosis, recommend for the light cases ligation of the superior thyroid arteries. Later, a portion of the gland can be removed if the symptoms recur.

THE CONSERVATION OF HUMAN RESOURCES, WITH SPECIAL CONSIDERATION OF MILK INVESTIGATION*

By JOHN LEE COULTER, PH. D.

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MINNEAPOLIS

You may wonder why I, a Doctor of Philosophy, should be called upon to address a conference composed largely of Doctors of Medicine. Indeed, I feel a little out of place, more because I have not been working with you in the past than because I have not been interested in the same problems. The outside public too generally believes that economists are devoted to the study of *material wealth* and that, when they discuss conservation, they limit themselves to the problems pertaining to conservation and reclamation of natural resources. I wish it might be generally understood that we are as interested in *human health* and the human resources of the country as we are in *material wealth* and material resources. We certainly cannot afford to overlook this, the most valuable asset of any nation, the health of the citizens; and I believe that you can depend upon the economists to rally to your support in this work which you are undertaking.

We, in turn, are glad that you have advanced to such a high stage in your efforts along the line of statesmanship in medicine. Members of your profession were formerly satisfied to wait until a human being was afflicted, and then that individual was visited and you did all in your power to help him. That was, and is, valuable and most important work, but it is only a beginning when we consider what you may do in the future. Dr. Wesbrook certainly pointed the way when he said "——— in this day of complex and highly artificial mode of life ——— the health authorities must keep abreast of development in commercial, economic, and scientific advancement in all lines, in order to protect the public against itself." (New York Conference of Sanitary Officers, 1905, p. 2.) You must still make a diagnosis of the patient's condition, in order to prescribe for the patient, but you must also make a searching analysis of the commercial and economic environment, in order to prescribe or lay down the rules which are necessary to preserve the health of the public.

When statesmen or economists find any natural resource being exploited or exhausted, they

immediately urge an investigation, first, of the scientific possibilities of prevention and, second, of the practicability of stopping the exploitation; that is, whether it is economically desirable. At the present time, in our effort to conserve the forests and to develop irrigation, the scientific investigation has gone far enough to prove that action is possible. The big question now is as to the economic desirability and method of carrying on the work.

Forty years ago similar demands for regulation of railroads resulted in, first, much investigation into methods; second, the conclusion that scientific regulation was possible and feasible, and, third, a careful application of principles established. At the present time, physical valuation, cost of service, and rates are an established policy.

For a century in this country the tariffs have been made by those directly interested, without consideration of the welfare of all; but during the next few years, thousands of dollars will be expended in a scientific examination of the cost of production at home and abroad, after which a scientific tariff may be established, which will take into consideration the interests of all. Many other illustrations might be cited of attempts to reduce present complex systems to a scientific basis. Among the most interesting would be those that pertain to the regulation of service and the prices charged for the use of municipal utilities,—street-car service, gas, electric light, water, etc.

But while economists have been devoting much time to these purely material problems and reducing them to a scientific basis, they have not lost sight of the more vital assets of our country,—the human resources. We recognize that, in order to reach or maintain a high standard of civilization, there are a large number of important characteristics to bear in mind. The most important of these are health, physical strength and endurance, intelligence, judgment, ambition, energy, perseverance, technical knowledge, mechanical ingenuity, imagination, and other related or derived qualities.

The greatest of these is health; indeed, this is the foundation-stone, and I am firm in the belief

*Read before the Minnesota State Sanitary Conference, Winona, October 12, 1909.

that, above all else, we must maintain health, even if education and wealth must be neglected. And since health is so largely dependent upon the physical environment and food, we must carefully control these. If this much is admitted, it must follow that, when money is expended for educational purposes, the first consideration should be to see that the buildings are sanitary. It is as important to have a good building and an efficient janitor, as it is to have a good teacher, because education follows health in importance. Fortunately, we can have both, if we will, and that is doubly well. If these principles are granted in their relation to education, they must be acknowledged, and should be granted the more readily when we apply them to the production of wealth. There is a great demand now sweeping over the country that the people must be protected and production of material things regulated, even at some sacrifice of vested interests and individualism. Industrial accidents must be stopped, trade diseases must be prevented, and pure goods must be produced. Human beings must not be sacrificed to the greed for material things. A few years ago industry was simple; today it is so complex and division of labor is carried so far that we do not know how goods are produced, but we are vitally interested. If the producer is ignorant, he may innocently produce goods which cause great suffering among us; if he is careless and slovenly, the same is true; and if his greed for material wealth exceeds his interest in the welfare of society, he may adulterate or otherwise produce goods which, in turn, produce physical deterioration or leave death in their train. Because some who are ignorant, slovenly, and avaricious are producers, we must regulate, but how shall we go about it?

I have noted that in the field of transportation, municipal industries, and the tariff, the authorities at the present time are attempting to place all legislation and regulation on a purely scientific basis. It is believed that in this way all interested parties may secure more nearly fair treatment. The unscrupulous and ignorant, along with others, get equal service and render equal service. Regulation is now a recognized policy of our government.

I said that health is vitally affected by environment and food. We must therefore regulate environment and food-production. We must regulate environment during the entire twenty-four hours of the day. This means that housing con-

ditions demand attention, including light, air, water, sewage, etc. The streets through which we pass need care, to keep them free from pollution. The schools, halls, stores, churches, and other buildings frequented should be carefully watched; for the ignorant, the slovenly and the covetous are always with us. And the places in which we work,—the factories, stores, and workshops,—demand special attention because disease and accident are most common there. But it is as important that the production of food be scrutinized as that the environment be carefully regulated. Death and physical deterioration follow the use of diseased, filthy, and poisonous foods. In order to secure pure food, the whole process of production and handling must be carefully scrutinized. And no fear or favor should be shown. The mass of the people, all consumers, must be protected alike; and producers must carry on their work in such a way as to make the preservation of the human race possible.

In the realm of food products no item is more important than milk. According to the census of 1900, there were some 754,000 milk cows in this state, and the total milk production was about 304,000,000 gallons. The Year-Book of the Department of Agriculture now reports about 1,040,000 milk cows in the state and an annual milk production of approximately 420,000,000 gallons. If this went directly to the consumer at five cents a quart, the annual product would have a value of \$84,000,000. In 1907 the local creameries of the state reported that they had paid out almost \$19,000,000 to the farmers for the butter-fat delivered to them. From these figures we may get some idea of the size of the problem before us. But quantity measurement is not the most important; quality should have first place. In the past we have given most of our attention to the quantity of milk or cream or butter-fat produced. We have received with applause the invention which helps to tell how much butter-fat there is in milk. We have prosecuted men for using undersized bottles for milk and for giving light weight in butter. We have experimented and preached how to get more or richer milk from cows. The time has come to take up the question of quality.

Poor quality may be due to diseased cows, or to diseased people handling the milk; to dirty cows or to dirty people handling the milk; or to dirty barns, milkhouses, utensils, etc. These may be helped on by ignorance, slovenliness, or avarice. If

ignorance is the cause, education is the cure; if slovenliness is the cause, the same cure is helpful, but must be backed up by rules and laws; if avarice is the cause, the strong arm of the law must be called upon. But, after all, the question has a purely economic side. If animals are diseased, they must be disposed of, or the milk must be treated. Who shall pay the bill? If the producers are ignorant, diseased, or slovenly, and impure milk results, who shall pay to remove the ignorance, cure the disease, or hire more efficient and therefore more expensive, producers? If pollution is the result of bad handling while better handling, cooling, etc., are more expensive, who shall pay for this improvement?

If the farmers are getting more than the cost of producing this milk, with a reasonable profit, at the present time, they should be forced to pay the bill as surely as railroads are required to give better service or reduce their rates. Or if the milk dealers are claiming exorbitant profits, these should be reduced and the surplus used to improve quality. Or, again, if the farmer can produce better milk, or more milk without increase of cost, by better education, no effort or expense should be spared, and no time lost, in the crusade of education. But if the farmer is doing the best possible with the prices being paid by consumers, and if the dealers are doing the same, the burden must fall upon the consumers. And it would pay them manyfold to pay a fraction more for the milk and demand a pure product. When we think of the thousands of deaths of infants, the doctors' bills, and the cost of epidemics of typhoid fever, scarlet fever, and diphtheria, and the spread of tuberculosis, we must marvel at the parsimony and short-sighted policy and false economy of consumers. We must have a better product, and someone must pay the bill.

An investigation is soon to be made in which an effort will be made to locate the weak spots in the present system and suggest the best lines of attack in improving the situation. This must include a careful examination and description of the present methods of production and marketing, a study of the cost of each step in the enterprise, and an analysis of the product. Whether the milk comes from the family city cow, the regular dairy, or the neighboring farmers, and the actual conditions under which the work is conducted in each case, will be carefully examined. It will point out the mistakes in the present methods of production and the character of

the product. It will show how the product may be improved, at what cost, and who should bear this increase, if increase there must be.

With the report of such an investigation before us it should be possible to outline a comprehensive plan for improvement. If education or inspection or prosecution is necessary, the proper parties can then take up the work in harmony. When producers, consumers, and dealers have all of these facts before them they should be able to outline a policy satisfactory and fair to all.

At the present time just such a study is being made in another field. Thousands of men working in factories and in industry generally, are injured or killed or become diseased annually, just as many people suffer annually on account of impure food. Employers and lawyers have now joined with the laborers to work out a system whereby these losses may be prevented, lessened, or compensated for. The last state legislature appropriated some \$5,000 and appointed a commission composed of an employee, a lawyer, and an employer, with experts to assist, to work out a solution to the problem satisfactory to all. The attempt is now to find the exact number of accidents, the cost of these, compensation, etc., and then to draw up a comprehensive law to cover all points of difference.

Just so, at the present time, it would be well, if possible, to have the consumers, the producers, and a member of the medical profession to take up the milk problem. Assisted by medical and economic experts, a comprehensive scheme for improvement could be worked out. Even under the present plan, we believe that it will be possible to determine whether it is better to have the family cow, the dairy, or the farm system of milk-production; that is, which is the most sanitary system. It will also be possible to determine which is the most economic system. If the milk is diseased, more systematic methods of examination and treatment of buildings, cows and care-takers will be worked out. If the product is dirty, effective methods of inspection and cleaning must be evolved. And if these improvements cannot be made without a considerable increase in the cost of the milk, the consumers must be educated to understand that true economy is to insist upon pure milk, even at a slightly increased cost.

I believe it will be found that by better methods of doing business an increase can be secured in both the quantity of the milk and the butterfat, and that the receipts from this increase, if

properly applied, would be sufficient to pay for introducing these better methods. Be this as it may, it is certainly time for those interested in the conservation of the human resources of the country to begin the movement which will not stop until producers and consumers join hands and improve the present system. In order to make the improvements it may be necessary for animals to be slaughtered, buildings to be in-

spected, and much money to be expended. But until a thorough study is made it is impossible to tell whether the agricultural educators, veterinary doctors, pure-food authorities, or public-health departments must have their authority increased. These must work toward a common end, and if they can get consumers and producers working together, their burden will be lightened.

THE SYMPTOMS AND TREATMENT OF ACUTE ANTERIOR POLIOMYELITIS*

BY THEODORE HATCH, M. D.

OWATONNA, MINN.

Upon reviewing the literature of this disease as pertains to the symptoms, one is impressed with the fickleness of the disease, both as to its manner of appearance and as to the symptoms which present themselves. For instance, one patient will have the prodromal symptoms of malaise, fever, headache, and gastro-intestinal and throat disturbances several days prior to the appearance of the paralytic symptoms. In another case these symptoms will present themselves but a few hours prior to the appearance of the paralysis.

Again, many cases have been recorded in which there were no prodromal symptoms, and the paralysis was the first to appear; or coma or delirium may be the initial manifestation of the disease. Then there is often a great disproportion between the early symptoms of the disease. There is also often a disproportion between the severity of the symptoms and the pathological condition found at autopsy. It is quite probable that the variation in types is a factor in producing these results.

It is not within the province of this paper to attempt the refinement of a discrimination between these different types, but rather to outline a typical case, and then refer to various symptoms which are liable to occur constantly. Often one of the first symptoms is an irritability of temper or disposition. The term peevishness would best express it. There will be a preliminary suffering for two or three days with malaise, apathy, indifference, and perhaps a tendency to a greater or less degree of stupor. Headache is also quite likely to occur at this

time. Most frequently the headache is at the base of the brain, in the occipital region.

Finally, fever develops, and now the throat and gastro-intestinal symptoms appear, though they may be present from the inception of the disease.

The gastro-intestinal symptoms are nausea and often vomiting, and there is often a diarrhea. When throat symptoms are present the throat is red, inflamed, and sore, presenting almost, if not quite, a typical angina. Constipation sometimes takes the place of diarrhea. Pain and soreness in the muscles are common symptoms. The writer's observation has been that of all symptoms this one of soreness is most constant. It has, at times, aided him in making an early diagnosis. Occasionally there is a twitching of certain muscles.

The temperature ranges from 101° to 104°, probably averaging from 102° to 103°. Occasionally, though rarely, there is a subnormal temperature. Jactitation and insomnia often occur at this time.

A certain degree of opisthotonos may be present. There is in a large percentage of the cases a hyperesthesia of the surface of the body. On the other hand, there may be anesthesia, or there may be a neuritis in some parts. The patellar tendon reflex is often exaggerated at first, but soon becomes diminished or entirely absent. In lesions of the upper portion of the cord the patellar reflex is often permanently exaggerated. Babinsky's sign is present in quite a large percentage of cases.

It is occasionally the case that after the appearance of the initial symptoms there will be a recession or remittance of all symptoms for a day

*Read before the Steele County Medical Society, April 5, 1910.

or two, and the patient will appear to be much better. Usually after the appearance of the preliminary symptoms, and within from two to four days, possibly a longer period, the disease takes one of two courses. Either the symptoms gradually disappear and the disease permanently subsides, which typifies the abortive type, or it terminates in some one of the different forms of paralysis.

As the disease is prone to attack either the cervical or lumbar portion of the cord, the location of the paralysis will, of course, be influenced by the location of the lesion in the cord.

The parts oftenest affected are the legs. Then the arms, then the neck and face. The temperature of the parts below the seat of paralysis is much below that above. Practically all of the fatal cases terminate from paralysis of respiration. The writer has traced one case in which there was partial paralysis of respiration in a child two years old where there was a recovery. Presumably there may have been others.

We now come to the great variation of symptoms in different cases. One patient, a boy aged 6, was taken with a sensation as if his arm were asleep, and he commenced rubbing and pounding it vigorously.

In the case of another boy he awoke with complete paralysis of motion of one arm.

A baby suddenly went into a comatose condition, and remained in that state for two days.

In still another case delirium was the first symptom. Cyanosis was present in another case. A mottled appearance of the skin in still another. Paralysis of the bladder was the first symptom in a child two years old. This symptom soon disappeared, however. The paralytic symptoms are as varied as those first enumerated.

As stated, the legs and lower portion of the body are oftenest the first affected. One side, or any part of the body may first be paralyzed. The disease may confine itself to this particular side, or it may extend to the opposite side. The paralysis may extend upwards, simulating Landry's paralysis.

Any branch of the trifacial nerve may be affected, and more particularly certain muscles of the eye, presenting the appearance of Bell's paralysis. The tongue has been known to be almost exclusively the seat of paralysis. Finally, paraplegia is quite apt to be the form taken by the paralysis.

There is in many cases a paralysis of sensation, to a greater or less degree. This may take

on the sensation of numbness, a sensation of extreme cold, or there may be a sensation of formication or tingling. There may also be a neuritis present. By elimination a diagnosis is sometimes made by spinal puncture.

Treatment.—The treatment of this disease is in a comparatively chaotic state, and yet there are certain features of treatment that are pretty thoroughly crystallized. The first great essential is absolute rest. This should be followed even after the patient is well progressed towards recovery. Clearing out the alimentary tract with calomel, followed by some not too drastic cathartic, is another fully conceded measure. As an auxiliary to the calomel the writer is partial to some reliable preparation of cascara. In his judgment it is one of the best eliminatives in the line of cathartics.

During the incipency of the attacks, and when there is fever, with its rapid pulse and accompanying symptoms, some of the arterial sedatives should be used in very light doses, but frequently repeated, and to the extent of relieving the high arterial tension, veratrum viride, aconite, belladonna, and gelsemium should be used according to the symptoms and conditions present.

When there is a rapid pulse with high tension veratrum or aconite will be very effective. Gelsemium is a very potent remedy where there is a high degree of irritation of the nervous system, with bright eyes, drawn or pinched features, twitching of the muscles, or a tendency to opisthotonos. Rhus toxicodendron will be a valuable adjunct at this time if there is much restlessness. In the cases of stupor or coma belladonna is of great service. Care should be taken not to give these remedies in too large doses, or continued over too long a period. Very often two or more of these remedies can be combined to an advantage.

Two remedies which have served very effectively in the writer's hands, but which he has not seen mentioned in the literature, are calcium sulphide and vegetable charcoal. Both are antiseptics, and the charcoal is a potent remedy for the hemorrhage into the cord. From 1-10 to 1-5 gr. of the calcium sulphide and from 1 to 2 gr. of the powdered charcoal may be given every three to four hours. Ergot is advocated by many. It is a good remedy, but in the writer's opinion it should not be given until the blood-pressure has been reduced by remedies or by nature; otherwise it is apt to increase the hemorrhage and aggravate the condition for which it was prescribed.

Ergot, strychnia, and electricity are all two-edged swords in this disease, and capable of doing much good or much evil, consequently a nice discrimination should be exercised in their use. Neither strychnia nor electricity should be used until some time after the initial symptoms have subsided.

When electricity is used a combination of the rapidly interrupted galvanic and faradic currents will undoubtedly result in greater benefit than any other form of electricity.

Urotropine perhaps gives as much promise as any remedy in use.

Soda salicylate, aspirin, phenacetine, quinine, and even the corrosive chloride have all been used, as has potassium iodide. The probabilities are that in time most of these remedies will be eliminated.

Ice, applied to the spine, hot moist applications, and dry cups all have their advocates.

Years ago the writer learned of the effectiveness of a spray of ether to the spine in chorea. In the treatment of the disease under consideration this remedy has given better results in his hands than any other local remedy.

Since the commencement of the preparation of this paper a colleague has stated to the writer that he has used counterirritation in these cases in the form of the mud or clay used in the manufacture of antiphlogistine and kindred preparations into which mustard has been incorporated. It would seem as though this might be a very practical application.

As an adjunct of electricity massage should be used to the paralyzed muscles. This should be very light. Otherwise it will increase the metabolism to the extent of increasing the atrophy, which the measure is intended to remedy.

Should the paralytic condition continue, with deformity, various orthopedic measures may be resorted to such as the adjusting of a splint, or the transplantation of muscles, tendons or nerves.

Lumbar puncture has been tried, but with negative results in at least most cases.

It is to be hoped that in the near future an effective remedy in some form of serum will be developed.

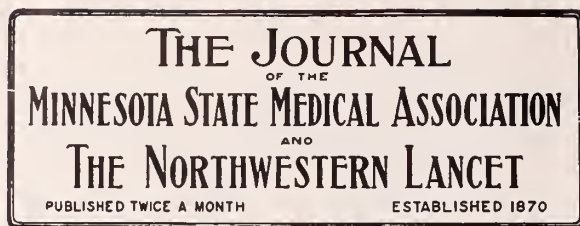
As we review this paper we can but realize that there is much to be learned in various directions in connection with this disease. This can only be accomplished by persistent, thorough, earnest study.

THE EARLY DIAGNOSIS OF PULMONARY TUBERCULOSIS

Lewis M. Gaines, of Atlanta, Ga., gives practical suggestions to aid in the early diagnosis of pulmonary tuberculosis. The clinical picture of incipient pulmonary tuberculosis is very different from that of consumption. The symptoms are very insidious and easily overlooked. The physical signs are slight and must be looked for carefully. Important symptoms are the history of possible infection in houses and workshops, loss of weight and strength, slight dry cough or clearing of the throat, and changes of pulse and temperature. So-called neglected colds are cases of mixed infection engrafted on an already active tuberculosis. Physical signs are scapular atrophy, apical dullness, fine moist rales, bronchial or harsh breathing, and diminished intensity of inspiration and expiration over a part of the lung. Tuberculin properly used is a valuable aid in diagnosis. The presence of bacilli is a valuable proof of tuberculosis, but their absence is not conclusive evidence against it.—*Medical Record*.

INTRASPINAL TUMORS

C. A. Elsberg, New York, reports a case of extramedullary tumor of the cervical region which was operated on by removal of the spines and laminae of several lower cervical and the first dorsal vertebrae. When the dura was incised the tumor extruded but owing to the patient's condition further immediate operation was deferred and the wound closed. A week later the wound was reopened and it was found that a tumor, measuring 5 cm. in length and 3.5 cm. in breadth, had been almost entirely extruded from its bed under the pia mater so that it lay outside the cord substance and could be removed with great ease and with the minimum of danger to the cord. A fuller report of the case will be published by him and Dr. Fraenkel at a later date. This preliminary report is given on account of the suggestion it offers for the treatment of similar cases. He believes that operation of tumor of the spinal cord should be made always in two stages and that the first stage should end, not with the laminectomy, but with the small incision in the dura and also in the pia if the growth is subpial. If the tumor is subpial or intramedullary the dura may be closed at the end of the first stage. A fuller discussion of the advantages and disadvantages of the method is promised in the future publication.—*Journal A. M. A.*



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IS GENERAL PARESIS CURABLE?

In the last number of the Journal of the A. M. A., Dr. Charles L. Dana, of New York, discusses the cure of early paresis. His principal contention is, that a condition, which he calls the preparetic state, is essentially a beginning paresis; and, if recognized in time and the luetic infection is not severe or uncontrollable and occurs in an individual with a fairly normal stability in his nervous apparatus, he may recover from his disease. At least, he may have years of remission in which he is able to transact his business as a normal man.

This statement is emphasized by the records of several cases that presented the classical symptoms of paresis due to syphilis in early life and recovered under appropriate medication.

The general observer maintains a fixed idea that when the symptoms of paresis appear, recovery is impossible, or, if the case recovers, it should be classified under brain syphilis. The group of symptoms which ordinarily indicate the approach of paresis is so well marked that the physician expresses a pessimistic prognosis without making an effort to eradicate the syphilis by heroic measures. The larger number of cases of

cerebral syphilis destined to become paretic, are probably incurable, but a sufficiently large number of cases which begin as paresis can be, and are, brought to a standstill or are seemingly cured. When an infection is discovered every known means of treatment should be instituted to avert a possible progressive disorder. In all cases where an infection is found, and where the interval between the initial sore and the beginning of a cord or a brain lesion is of from five to twenty years, an attempt should be made to relieve the alarming symptoms with the hope that a progressive condition may be arrested.

An indifferent course of iodids in small or moderate doses is usually inadequate, and the prognosis is dubious. The more scientific method of treatment, that of mercurial injections, should be pushed to the point of tolerance.

In many of these cases that are classed as neurasthenic, tabetic, taboparetic, or even paretic, a cure is possible. Such cases demand the closest observation and most careful medication, together with proper measures to insure a return of stability.

Too many preparetic cases are overlooked or neglected until pathologic changes are evident in the cerebral cortex. Convulsions, tremor of the lips and tongue, mental inefficiency, pupillary changes, mental exhaustion, and marked delusions of grandeur, speech defects, and paralysis may be relieved by the vigorous administration of mercurials. The fine distinction between general paresis and cerebral syphilis should be subordinated to active medication. No halfway means should be undertaken even though the diagnosis of either condition is in dispute. It is a sheer waste of time, effort, or medicine to temporize. Every day of treatment is important when symptoms pointing to the advancing inroads of lues is apparent. The "three i's" must be observed:

1. Investigation of the individual and his infection.
2. Insight in diagnosis and prognosis.
3. Injections of mercury.

THE RESTORATION OF THE DEFECTIVE AND CRIMINAL BY SURGERY

For some years the lay press has published accounts of surgical operations on defectives and criminals who have been restored to health by such procedures. Many of these statements have not been verified, and many glowing and thrilling tales have originated in the fertile brain of a newspaper man. There is, however, a grain of

truth in some of these publications, and particularly in reports of medical journals describing the favorable outcome of a defective or a criminal following surgical explorations. It is a well-known fact that epilepsy is not infrequently the result of a depressed fracture, the formation of a cyst, or the penetration of a foreign substance in the brain, such as a shot or a bullet. The brain of a child may be arrested in its growth by an injury to the head, and there is no reason to disbelieve that a severe injury to the skull or brain may induce criminal tendencies. Instances are recorded where individuals who have been the victims of skull injuries have exhibited a change in character and mentality, and who, formerly able to carry on a business, have failed to maintain their interest or livelihood after an injury. Surgical exploration or the removal of a depressed inner table or foreign substance has restored their mental balance and their abilities.

The total number of recoveries is indisputably small for many reasons; and the important one is the length of time between the injury and its attempted relief.

The brain can stand a reasonable amount of insult at times, but is incapable, in many instances, of carrying its scars for a lifetime without manifesting its objections by symptoms of irritation or pressure. The result is usually a chronic disease. The attempt to relieve an old condition by surgery is not often successful, but occasionally an individual is found who has borne his affliction for years, and yet his restoration may be complete. The courts are more inclined to give credit for criminal acts to disease or injury than in former years, and if statistics could be properly tabulated a fair number of criminals would be found who would improve or recover under the care of the physician rather than in a penal institution.

The subject is worthy of further study, but it should be investigated only by trained men, in order to prevent the wholesale attempt to cure crime by unreasonable and unscientific surgical assaults.

ENDOWMENTS FOR MEDICAL SCHOOLS

A very striking evidence of the advance in medical education is the reorganization of Washington University, of St. Louis. For many years the medical department of this university has been handicapped to such a degree that its standing has disappointed its directors. In order to place it in the first rank of medical schools

the directors have succeeded in forming a union of a large general hospital and a children's hospital with the medical school.

A few public-spirited men were interested and have contributed money to erect a medical laboratory and clinical buildings and to provide an endowment fund aggregating over six million dollars. This fortunate combination has resulted in a large medical teaching equipment and the election of several prominent medical teachers, among them the following: Dr. George Dock, formerly of Ann Arbor, later of Tulane University, New Orleans, to the chair of medicine; Dr. John Howland, of the University and Bellevue Hospital Medical College, New York, to the chair of pediatrics; Dr. Eugene L. Opie, pathologist at the Rockefeller Institute of Medical Research, to the chair of pathology; and Dr. Joseph Erlanger, of the University of Wisconsin, to the chair of physiology. The remaining chairs will be filled within a reasonable time by equally good men.

The reorganization of this medical school is an index of what is to come to pass generally in the near future. The Carnegie Foundation for the Advancement of Teaching has been conducting a rigid investigation of schools all over the country, and when its report comes out for general inspection many medical schools will be found bruised and bleeding, some exsanguinated from the deep thrusts of the sharp pen wielded by the fearless hand of Abraham Flexner, the chief inspector for the Carnegie Fund. If the report be carefully read and its criticisms reach the candidates for medicine, it is very likely that several medical schools will cease to exist—for lack of students. This will mean, in turn, a better grade of instruction, more uniformity in teaching, higher entrance requirements, and a smaller number of schools. The elimination of commercial schools and of schools without adequate clinical advantages is very necessary if we expect to turn out high-grade men. The time has gone by for the quarter or half educated medical student. This was well enough in its day, but now conditions and needs are so changed with the advance of civilization that the country demands better material.

Incidentally, it may be noted that Minnesota is one of the few states that supports but one medical college. Maryland, for instance, has seven, one of which meets the requirements of today. The school in Minnesota is listed as a high-grade school, and its advance is favorably commented upon in the forthcoming report.

Unfortunately, it is wholly improbable that

men of money will see the report unless their attention is called to it by some extraordinary circumstance. Here is another opportunity for the physician to do missionary work and secure a big endowment fund for Minnesota and its medical school or hospital.

It would be a great source of satisfaction to see the name of some man of means on a brass tablet in the entrance hall of a research-building or hospital-pavilion on the University Campus; at least to the poor physician, who, by hard labor and long hours, makes only a comfortable living, such an honor would be everlasting. Minnesota has many millionaires who could easily spare a large sum of money for the advancement of medical education. How to interest such men is a serious problem.

THE ST LOUIS MEETING

The committee having in charge the railroad arrangements for doctors going to St. Louis have decided that Saturday evening (June 4th, 8 o'clock) is the best time to leave. This will bring the party into St. Louis in time for dinner Sunday evening, and will enable them to attend some important meetings on Monday and also to visit the exhibits, which, under the new arrangements, will be of unusual interest and value.

At the rate reservations are now coming in, a special train will be obtained and will run as a section of the Pioneer Limited, the finest equipped train running out of the Twin Cities.

If the number starting on Saturday evening will not justify a special train, the party will have special cars and will thus be kept together and furnished all the advantages of a special train.

As there may be a considerable number who cannot start until Sunday evening, at the same hour, reservations may also be made now for that evening, and thus a party will be formed for that train. All reservations should be made at once.

Address Dr. F. C. Todd, Donaldson Building, Minneapolis.

REPORTS OF SOCIETIES

HENNEPIN COUNTY SOCIETY

The Society met on May 2d, with thirty-six members present.

Dr. T. F. Quinby read a memorial on the life of Dr. Robert S. McMurdy.

Dr. James W. George became a member upon

his transfer card. Communications from the editor of the Daily News and from a number of congressmen pledging support to the Owen bill were read.

Dr. H. H. Parks read a paper on "Hopewell Hospital and the City Tuberculosis Problem"; and Dr. H. O. Collins presented "The Needs of the City Hospital." The needs of the hospital are many, and some call for a large outlay of money, but Dr. Collins plead for public confidence in the hospital and the support of the medical profession, and these he placed above all other needs.

Upon motion of Dr. W. A. Jones a committee was appointed to represent the society before the Board of Tax Levy with a view to a larger appropriation for the hospital.

C. H. BRADLEY, M. D., Secretary.

CAMP RELEASE DISTRICT SOCIETY

The Society met at Montevideo, on April 28th, with eighteen members present.

The President's address, "What Should Be Done to Build up the Society?" was given by Dr. E. M. Clay, Renville; and three other papers were read as follows: "Care and Disinfection of Tuberculosis," by Dr. R. C. Adams, Bird Island; "The Urgency of Early Diagnosis of Cancer of the Stomach," by Dr. P. C. Davison, Clara City; and "Carbuncle and Its Treatment," by Dr. G. H. Mesker, Olivia.

The Public Health bill was indorsed, and the secretary was instructed to request our members of Congress to aid its passage.

The secretary being absent on account of sickness, Dr. C. E. Rogers was appointed secretary pro tem.

C. E. ROGERS, M. D., Secretary, pro tem.

WASHINGTON COUNTY SOCIETY

The Society met at Stillwater, on May 10th, with seven members present.

Dr. E. S. Geist, of Minneapolis, read a paper on "The Treatment of Weak or Flat Foot;" and Dr. T. C. Clark, Stillwater, gave a report of cases of perforating ulcer of the stomach.

F. G. LANDEEN, M. D., Secretary.

NEWS ITEMS

Dr. R. W. Stough has located at Beach, N. D.

Dr. Otto E. Alvig, of Minneapolis, has located in Triumph.

Dr. W. W. Johnston, of Geneva, has moved to Savage, Montana.

Dr. L. W. McKenzie, of Belcourt, N. D., has moved to Colorado.

Dr. I. B. Seagley, of Presha, S. D., died last month at the age of 48.

Dr. R. J. Sewall's new hospital at Cuyuna, will receive patients this week.

Drs. Graham and Johnston, of Bowbells, S. D., have dissolved partnership.

Dr. Carl R. Butturff, of Newmarket, has sold his practice to Dr. Hendrickson, of Iowa.

Dr. Freu C. Bakke, of Stephen, purchased the practice of Dr. W. J. Bandelin, of Warren.

Dr. Vincent Giallereti, an Italian physician and surgeon, of Chicago, has located at Hibbing.

Dr. Charles W. Watson, of Boyd, has sold his practice to Dr. A. M. Aanes, of Clermont, Iowa.

Dr. L. S. Graves, of Wilton, was married last month to Miss Mabelle J. Walker, of Ogdensburg, N. Y.

Drs. Van Valkenburg and Liedl, of Long Prairie, are erecting an office building for their exclusive use.

Dr. Frank W. Calhoun, of Albert Lea, was married last month to Miss Anna E. Jeffries, of Leland, Iowa.

Dr. F. J. Bickford, of Pine River, has sold his practice to Dr. W. H. Hobart. Dr. Bickford will go to Washington.

The training-school of the St. Paul City and County Hospital graduated a class of fourteen nurses last month.

Carrington, N. D., is to have a hospital, the business men are subscribing liberally, and ground has been purchased.

Dr. Charles E. Howard, of Cogswell, N. D., and Miss Florence Latourelle, of Mapleton, Minn., were married last month.

Dr. F. X. Farley, of Crookston, will remove to Los Angeles this month. Dr. Farley has practiced twenty-eight years in Crookston.

Dr. H. M. Bracken, executive officer of the State Board of Health, is sick with typhoid fever, and is at the Northwestern Hospital, Minneapolis.

Dr. Donald C. Balfour, of the staff of St. Mary's Hospital of Rochester, and Miss Carrie L. Mayo, daughter of Dr. W. J. Mayo, were married last month.

Dr. E. R. Perkins, of Excelsior, died of heart disease on May 16th. Dr. Perkins has practiced in Excelsior for over thirty years, and was thus one of the oldest practitioners in the state.

The training-school of St. Francis Hospital, of Breckenridge, graduated its first class of nurses last month. There were twelve in the class, and all took the full three-year course.

The physicians of Duluth last month gave Dr. W. R. Bagley a farewell banquet, and presented him a handsome ring, Dr. Magie making the presentation speech. Dr. Bagley is going to Oregon.

Drs. Walker, Geyerman, and Naftzger, of Hot Springs, S. D., are erecting an up-to-date physicians' office-building for their exclusive use. The reception-room will accommodate forty persons, and the offices throughout will be handsomely furnished.

Notwithstanding its long and very successful career as an independent society, Dr. J. W. Andrews, president of the Minnesota Valley Medical Association, urged the society, at the past meeting, to become a district society of the State Association, and action leading to this end is hopefully looked for.

Dr. W. H. Hill, of the University, says that the report of his early removal to Milwaukee as health commissioner of that city, is "much exaggerated," as Mark Twain once characterized a report of his death. Dr. Hill is a "sociologist" and a social fellow, but the socialist mayor of Milwaukee has not captured him yet.

Dr. J. A. Hielscher, of Blue Earth, and Dr. Helen Hughes, of Mankato, were married last month. Dr. Hughes is a graduate of Michigan University in 1896, and spent a year in Vienna in post-graduate work. Dr. Hielscher is a graduate of the University of Minnesota. They will spend the summer in Georgian Bay, and then take post-graduate work in New York City.

Dr. H. A. Tomlinson, who has been connected with the State Hospital for Insane at St. Peter since 1891, and superintendent since 1893, has been selected by the State Board of Control to take charge of the State Farm for Inebriates, located at Willmar. Dr. Tomlinson will begin his new work on January 1st. We predict for him a conspicuous success and that he will do a work that will give him even a wider reputation than he has already gained as an alienist.

The Montana State Medical Association met last month at Butte and had the largest meeting

in the history of the Association. The following were elected officers of the Association for the current year: President, Dr. W. F. Cogswell, Livingston; vice-president, Dr. P. C. Witherpoon, Butte; secretary, Dr. H. D. Kistler, Butte; treasurer, Dr. C. T. Pigott, Butte. At each future meeting the best paper read will be designated as the H. P. Rickett's memorial paper.

The Minnesota State Homeopathic Institute (the State Homeopathic association) was in session last week in Minneapolis, and a report was current that the society would oppose a movement of the American Medical Association for the establishment of a national medical bureau or department of the government. On the contrary, the Institute voted in favor of the Owen bill. Officers of the Institute for the current year were elected as follows: President, Dr. W. A. Beach, Mankato; vice-president, Dr. G. B. Hamlin, Minneapolis; secretary, Dr. G. A. Dahl, Mankato; treasurer, Dr. Margaret Koch, Minneapolis.

The North Dakota State Medical Association held its annual meeting last month at Grand Forks. Resolutions were passed favoring the teaching of bacteriology in the public schools in order to spread knowledge concerning preventable diseases and eventually to check their ravage. The following officers were elected for the ensuing year: President, Dr. H. H. Healey, Grand Forks; vice-president, Dr. C. E. Spicer, Litchville; secretary, Dr. H. J. Rowe, Cassalton; treasurer, Dr. F. J. King, St. Thomas; Councilors, Dr. Paul Sorkness, Fargo; Dr. F. H. Sihler, Devils Lake; Dr. R. D. Campbell, Grand Forks.

ADDITIONAL NAMES FOR THE ROSTER

The following additional names of members of the Minnesota State Medical Association were received since our last issue and since the publication of the Roster:

Bacon, H. P.	Milaca
Burton, O. A.	Sarasota, Fla.
Bushey, M. E.	Arlington
Miller, Troy S.	Minneapolis
Tennyson, Theodore	Minneapolis

[Notice.—A physician who offers his practice for sale through these columns is entitled to full information concerning an applicant, and unless this is given a reply may not be received, because a physician who sells the good-will of his practice is in duty bound to sell to a man worthy the confidence of his former patients, and to no other man will he make known his intention of changing his location.]

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On another page will be found the card of Dr. Henry L. Ulrich offering his services to the members of the profession who prefer to have their laboratory work done outside of their offices. This has become a common practice in the larger cities, and it is especially convenient for men in the smaller places, as few of them can give the time required for such work.

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Benetol is a chemical preparation worked out by Prof. H. C. Carel, formerly head of the Department of Medical Chemistry and Toxicology at the University of Minnesota, and chemist to the Minnesota State Board of Health. Benetol is the result of extended chemical, toxicological and bacteriological research covering a period of two years, by Prof. Carel with the bacteriological collaboration of Dr. Carl Estrem of the University of Minnesota, subsequently bacteriologist of the Minneapolis City Hospital, Prof. Frost of the University of Wisconsin, Dr. W. L. Beebe of the Minnesota State Sanitary Board, and Drs. Corbett and Woodworth of the Minneapolis City Bacteriological Laboratory. Chemically, Benetol is a soluble glycerite of alphanaphthol and is therefore known as glycerite of naphthol, or to the trade as Benetol. It is a brown, saponaceous liquid having the pleasant odor of added essential oils. Benetol is easily soluble in water, alcohol, or glycerine. The taste is rather sharp and astringent for a few moments. The reaction of Benetol is alkaline; it is chemically incompatible with acids, hydrogen peroxide, or mercuric chloride. It is non-corrosive and but slightly irritating, and has no action on surgical instruments or pure gum rubber, and will not coagulate albumin. Age has no effect on the preparation, samples tested after a year's standing were of the same efficiency as the freshly made up Benetol. Exposure to light in flint bottles will cause darkening of the liquid but without diminution of the strength.

Toxicologically, Benetol is practically harmless; rabbits, guinea-pigs, dogs, horses, and cows were subjected to increasing doses, hypodermically and by the oral cavity, without evidence of toxicopathy. Tablespoonful doses internally fail to produce observable toxic effect on man. Two years' clinical usage in the hands of prominent physicians and surgeons who have employed Benetol with utmost freedom internally and externally has yielded

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Clinically, it has been extensively used during a period of nearly two years by physicians and surgeons, dentists and veterinarians, chiefly in Minneapolis, Minn. The clinical results have been uniformly excellent. Strengths varying from 1-10 of 1 per cent dilution to the full strength Benetol have been freely used. A general solution for hospital uses is 1-5 of 1 per cent, or a teaspoonful in two quarts of water. This dilution has been used in the Northwestern Hospital of Minne-

apolis and the hospital of the University of Minnesota during the past twelve months. A teaspoonful per quart of water is, however, a frequent office usage and from that on to full strength on external wounds, on the tonsils, on the cervix, etc.

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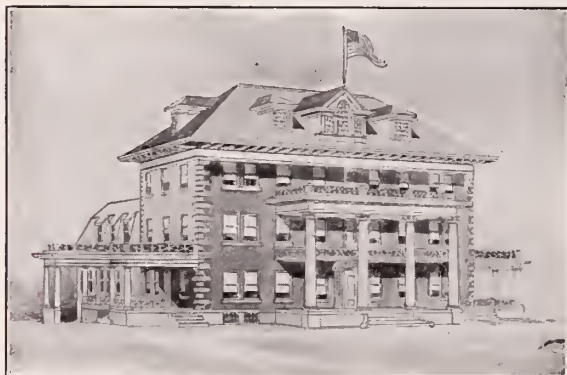
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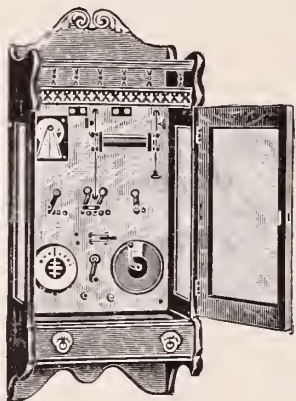
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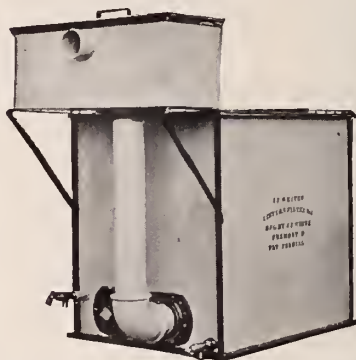
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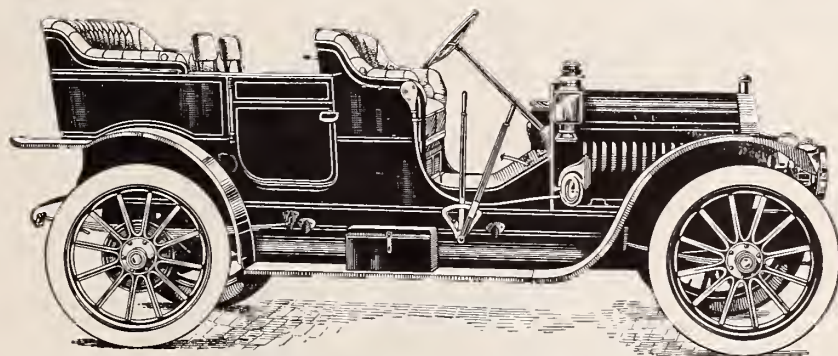
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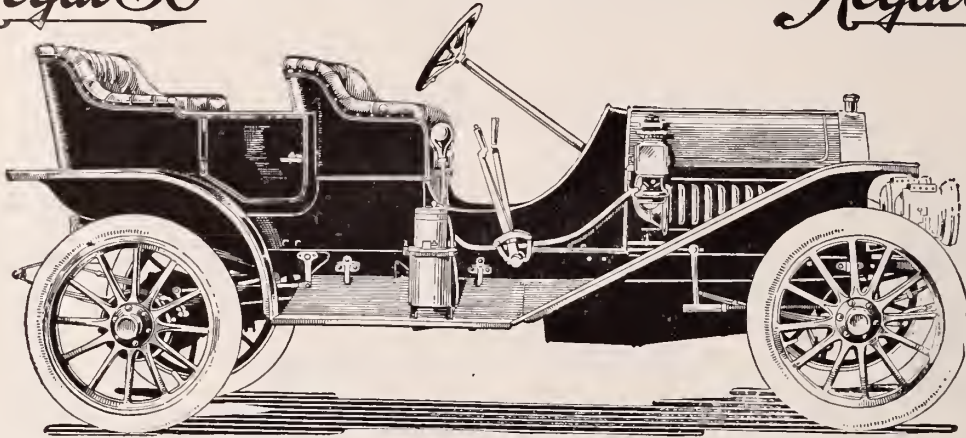
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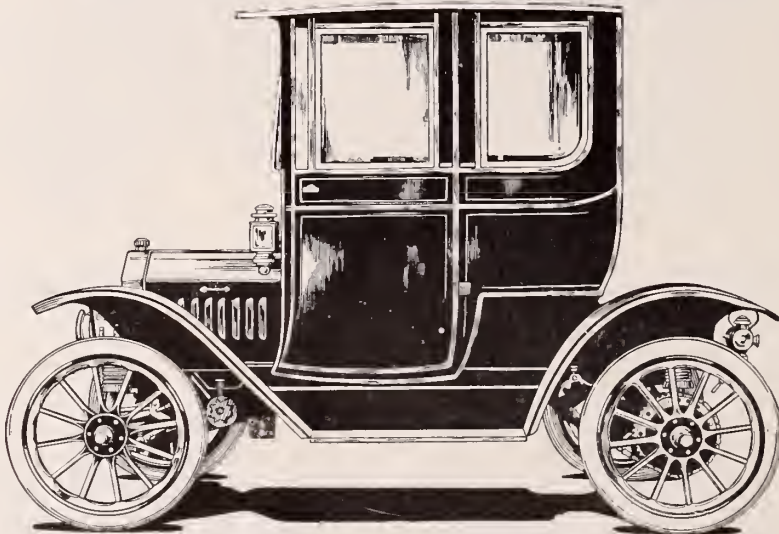
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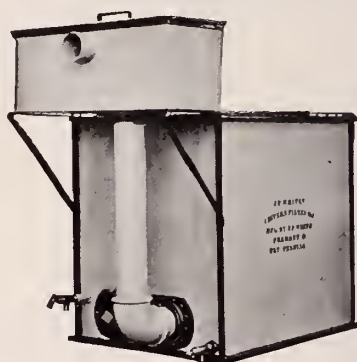
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TETANUS*

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MINNEAPOLIS

Tetanus is classified as an infectious disease, and the characteristic symptoms are dependent upon a poisoning of the motor nerves by absorption of toxins, the product of a specific bacillus.

The literature of tetanus is voluminous, and the mere clinical descriptions of the early writers were graphic and accurate. Hippocrates and Aretæus wrote interestingly of the disease, and the latter gave no less than eight or ten causes for its occurrence, and divided the condition into many varieties, depending upon the flexion of the body during the course of the malady.

The disease may be said to be characterized by painful tonic and clonic spasms of all the voluntary muscles of the body, the muscles of mastication being the first to be affected.

The classification of tetanus is becoming more simple. The terms *acute* and *chronic* applied to tetanus, indicate merely the length of the course or the duration of the infection. The disease is usually endemic, but occasionally is epidemic in large cities.

According to Anders small epidemics occur, but the origin, as a rule, can be definitely traced.

Various names have been applied to tetanus, depending upon the circumstances under which it develops, as *vaccination* tetanus (from the use of contaminated vaccine); *diphtheria* tetanus (due to the use of contaminated antitoxin);

and certain epidemics of tetanus in the newborn are referred to as tetanus *neonatorum*. Some cases where the infection atrium cannot be positively demonstrated, have been styled *idiopathic* tetanus; recent investigation, however, seems to prove that all cases are due to wound-infection, and it is superfluous to refer to different cases of tetanus as "traumatic," "idiopathic," "rheumatic," etc., as it would be to describe typhoid fever as "well typhoid," "oyster typhoid" and "milk typhoid," depending upon the source of infection or the circumstances under which it developed.

There is one special form of tetanus described by Rose, which should be mentioned, namely, *cephalic* tetanus or *hydrophobic* tetanus. It seems to occur particularly in connection with injuries of the head, situated in the distribution of the cranial nerves. This form is characterized by violent spasms of the pharynx and esophagus. These spasms occur in addition to the other ordinary phenomena of tetanus. It is usually of an acute type and the mortality is high, but aside from the diagnosis it is of no particular moment as a subvariety.

Certain facts in regard to the history of the discovery of the etiology of tetanus are so interesting, of so much importance, and have come so very recently they will bear repetition.

In ancient times it was known that the toxins had a special preference for the nervous tissue, but the cause of tetanus was attributed to one or more conditions now classified as predisposing causes. Sternberg², in 1880, announced that

*Read before the Academy of Medicine, February 3, 1909.

he could produce experimental tetanus in animals by injecting into them gutter water and earth. Nicolaire³, in 1884, described a delicate bacillus found in the pus taken from tetanus wounds, which he had produced by the injection of earth into the roots of the tails of the mouse, rabbit, and guinea-pig. Kitasato⁴ later obtained a pure culture of this bacillus, and its specific nature was soon established.

The bacilli have the appearance of rods, cylindrical in shape and enlarged at one end. The organism is absolutely anaërobic. Smears taken from wounds in well-developed cases of tetanus may exhibit the bacilli upon the application of the ordinary stains. They also stain by Gram's method. The organism is destroyed by heat, but the spores are even more resistant than was once thought.

The distribution of the bacilli seems to be ever increasing. Since its first detection in earth and garden soil recent investigators have demonstrated the presence of the bacilli in the dung of the domestic animals. Sanchez Toledo and Veillon⁵ found tetanus bacilli in the feces of four out of six horses, and in the feces of one of two cows examined. Pizzini⁶ found the bacilli in the feces of peasants having much to do with horses.

The source from which the animal obtains the bacilli is undoubtedly their food, for it has been shown that the bacilli frequently are found on hay and grass. The manner in which the organism found in the human excreta gains entrance to the intestines is probably through uncooked food, for Rabinowitsch⁷ has demonstrated the presence of virulent spores on fresh strawberries and cherries that he purchased from vendors on the public streets.

Advantage has been taken of the fact that bacilli were found upon fresh vegetables, to explain the origin of the so-called idiopathic cases of tetanus. The human is supposed to ingest the germs and through absorption of their toxins develop the symptoms, but, as stated above, recent investigation and experimentation by the feeding of virulent bacteria does not support this theory, nor is it logical to assume that tetanus can be produced in this manner, when one recalls the fact that animals that are very susceptible to the invasion of the tetanus bacillus through a wound, seem to be the host, or at least their intestines form practically a natural habitat for the most virulent spores, and yet the disease does not develop under these conditions.

The distribution of the bacilli in relation to Fourth-of-July injuries is interesting. Dr. H. G. Wells⁸ made an exhaustive bacteriological study of 200 cartridges from five different firms, but the tetanus bacillus was not detected in any of the experiments although several other anaërobes were present. Taylor⁹ repeated these experiments and altogether 759 blank cartridges, from different firms, at different times, and in different cities, have been examined, and with a single exception the results were absolutely negative (Frazier¹⁰). These investigations prompted the writer to seek clinical information regarding the frequency of tetanus in powder-mill employees. From several earnest efforts on the part of the different managers of the various mills of the Dupont Powder Company to give me this desired information, they were unable to recall, nor did they have on record, a single case of tetanus occurring among their employees, neither did they discover any fear among the workmen regarding the development of lock-jaw consequent upon a wound.

However, evidence of the wide distribution of the tetanus bacillus is emphasized by the fact that Iceland once suffered from a rather severe epidemic, although the disease is particularly prone to develop in the tropical climates.

All cases of tetanus should be regarded as starting by wound-infection. It may be difficult, or impossible, to obtain a clear history of injury, but the fact remains that tetanus is essentially a wound-infection. Certain predisposing causes are essential to the healthy growth of the bacilli after they have entered the tissues. These predisposing causes have been recognized by the older writers and to them were attributed the actual occurrence of the disease.

Tetanus is not a common disease, but it occurs with just enough frequency that all who are in the practice of medicine and surgery must be ready to detect it and aim to prevent it.

From the excellent articles by Anders and Morgan¹¹ their statistics show that the infection, although most common in the tropical regions, is widely diffused throughout all civilized countries. All investigators agree upon the frequency of its occurrence in warm weather, but statistics show that cases occur at all seasons of the year, and the greater number of wounds occurring during the Fourth-of-July season may partially account for the frequency at this time of year.

The influence of age is slight, but the predisposing conditions which accompany early and

young adult life explain the frequency during these ages. The new-born must run the gauntlet of infection from careless midwives during the care of the umbilical stump; the young America must pass the firing-lines of the insane Fourth-of-July celebrations, and the other risks of severe wounds to which he is exposed during his development, while the artisan is constantly subjected to the environment of possible injuries peculiar to his occupation.

Anders' statistics show 229 cases occurring between the ages of five and fifteen years, or thirty per cent; 145 cases between the ages of fifteen and twenty-five years, or 24.9 per cent; 86 cases between the ages of twenty-five and thirty-five years, or 14.8 per cent; and beyond fifty years only 14 cases.

Exposure to cold has long been one of the conditions which were supposed to cause tetanus, but the result of exposure is lowered resistance and is responsible merely for a condition favoring susceptibility. In some cases occurring immediately after severe exposure, where it was impossible to demonstrate a wound or abrasion, the process is the same, but under more favorable circumstances. Vincent¹² relates experimental research which demonstrates anew that peripheral local chilling is an extremely powerful adjuvant to the infection with tetanus. The peripheral local chilling arrests for a time the vital processes of the member chilled, the local defensive activity of the leucocytes is annulled, and the action of the opsonins and alexins is undoubtedly inhibited. In other words, a combination of various secondary causes may open the portals of infection, when neither alone would accomplish it.

Traumatism is undoubtedly the predisposing cause of most importance in the production of tetanus, be it the result of operation or injury, for it is through the breach of the tissues that the bacillus enters.

The character of the wound is of some importance. Contused, punctured, crushing, wounds, and wounds with small external apertures, present the most favorable conditions for the development of the bacilli; however, a slight abrasion, an unnoticed contusion, or even a mere pimple which has suffered trauma may be the port of invasion of the bacilli.

Once the bacilli have lodged within the tissues the results depend upon the above-mentioned predisposing causes and the presence of most any other pyogenic organism. In the presence of these pus-forming germs the tetanus

bacillus is assisted in its development, owing to the fact that the former use up the oxygen in their development, and again, by causing supuration, the leucocytic properties of the locality are lowered.

The bacilli rarely wander beyond the point of infection. According to Lexer¹³, Schnitzler demonstrated them in the neighboring lymph-nodes; Creite found them in the viscera; while Hochsinger alone claims to have demonstrated them in the circulating blood; and Hohlbeck detected the bacilli in the blood taken from the cadaver. In a case of Dr. F. H. Markoe's, reported by Blake¹⁴, the bacilli were found at post-mortem examination in the wound, spleen, and heart's blood.

While remaining locally as a rule the bacteria produce certain toxins which cause the general disturbances. Without going over all the steps of the different experimentors in detail, the work of Meyer and Ransom¹⁵ and Marie and Morax¹⁶ seems to prove that the toxins are not taken up by the lymphatics and blood and subsequently deposited in the cord, but, on the contrary, the products of the growth of the bacilli are taken up, or sucked in as it were, by the motor nerves only, and are carried by them directly to the spinal cord being deposited in the ganglia and producing a condition of hyperexcitability of the motor centers, which accounts for the tonic contractions of the muscles. The toxins, at first local in a few ganglia, spread upward in the cord to other ganglia, and later (Archibald¹⁷) take hold of the tactile apparatus of the reflex arc, the nearest part of the nervous system, producing reflex hyperexcitability. This explains the reflex phenomena noted upon irritation of the affected part.

The post-mortem findings are not constant, and as yet no definite lesion of the cord or brain has been established. Aside from the various appearances of the wound or wounds, if present, there is no special pathological condition.

Foreign bodies, such as old splinters, pieces of clothing, and cartridge paper, occasionally are found in the tissues. In some severe cases, according to Anders, there is an increase in the density of the cerebral tissue, and the gray matter is distinctly hyperemic. The nerves leading from the seat of injury may show evidences of acute inflammation. "In the chronic forms the brain and meninges are sometimes edematous, and minute hemorrhages have been observed."

The period of incubation varies, but the average acute case of tetanus appears about the

seventh to the tenth day. Agnew reports a case of tetanus appearing twenty-four hours after the occurrence of a wound, in a man who has been severely chilled. Statistics show that the so-called chronic cases enjoy a longer period of incubation, and there is more or less constant relation between the length of incubation and the fatality of the disease. The shorter the incubation-period the more severe the symptoms; the longer the period of incubation the brighter the prognosis.

In acute cases the characteristic symptoms may be preceded by prodromes, such as languor, headache, etc. Prancrazio¹⁸ mentions the frequent occurrence of severe pains in the back as the most important premonitory symptom of beginning tetanus. In his eight cases, which he reports in detail, all the patients complained of this diffuse backache as the first sign of trouble. In a series of 1,500 injury cases treated by the writer during the last six years, there occurred but one case of tetanus. This patient complained bitterly of pain in the injured part, but no backache was noted.

The wound, or wounds, may or may not show changes which would indicate local trouble. In the fatal case of the writer's the amputation-wound showed early signs of gangrene of the flaps and suppuration.

The first definite symptoms, as a rule, are stiffness of the muscles of the jaw, back of the neck, and, later, spasms of the muscles of the face. The disease develops rapidly and the rigidity spreads to all the other muscles of the body. The persistent tension of the muscles of the face gives the peculiar expression known as the "sardonic grin." The tonic spasm of the masseters becomes more severe, and soon it is almost impossible to open the mouth, and in fact the tension may be so great that the teeth may be ground or crushed. Soon the muscles of deglutition become involved, causing great difficulty in swallowing, and finally the muscles of the extremities and abdomen. In the writer's case the extremities were affected prior to the general involvement.

There are two kinds of muscle spasms, the tonic or constant rigid condition of the muscles, and the clonic or paroxysmal convulsive seizures, which are accompanied by severe pain. The clonic convulsions are the reflex contractions excited by the slightest external irritation. Depending upon the involvement of the muscles of deglutition, the power to take food and drink is inhibited. Sleep is almost impossible on ac-

count of the repeated clonic seizures, profuse diaphoresis follows the muscular exertions, and exhaustion follows the rapid waste of the patient's energy.

Decubitus depends upon the group of muscles mostly contracted, the eyes are staring, the pupils contracted, and the expression of physical suffering is one to elicit nothing but absolute pity from the most hardened observer. The mind, as a rule, is clear.

Chas. W. Burr¹⁹ emphasizes the rarity of a clouded mind during or after an attack of tetanus, but reports three cases in which delirium occurred. In one case he is not sure that the mental symptoms were not caused by the bromids and chloral used; in another he believes the previous abuse of alcohol was a large causative factor; while in the third case he could attribute the delirium to no other cause save exhaustion and the influence of fever in a susceptible person.

Spasms of the voluntary mechanism controlling the sphincters makes urination and defecation difficult. Fever is variable. In a number of cases a severe rise of temperature is noted just before death, and its appearance should be regarded as a bad omen.

The principal causes of death (Cheyne and Burghard Osler) are—

1. Spasm of the diaphragm or other respiratory muscles.
2. Severe laryngeal spasm, terminating in fatal asphyxia.
3. Arrest of the heart's action, which may be due to either spasm or paralysis.
4. Profound exhaustion or inanition.
5. Severe hyperpyrexia.

Leucocytosis and other changes in the blood have been studied little, but in several cases noted in literature where leucocytosis was present, it may have been due to the suppuration in the infected wound.

In chronic forms the above severe clinical picture is not observed. The muscles of mastication may be the only group involved; fever is practically absent. The incubation period is long, and recovery may take place in a week or the symptoms may last for several weeks.

The diagnosis of tetanus is, as a rule, not difficult. In the chronic type where the rigidity of the jaws alone is present, inflammatory diseases of the mouth and pharynx must be excluded, but this is seldom difficult as these conditions are usually accompanied by severe constitutional disturbances such as fever and symp-

toms of pyogenic infection. In one case of Ludwig's angina, which I observed, the first symptom was a stiffness of the jaws and inability to swallow and difficulty in breathing, but the edematous floor of the mouth and high temperature made the exclusion of lock-jaw possible.

The literature on the treatment of tetanus shows that there is scarcely a drug or remedy, especially if it has any influence upon the nervous system, which has not been used in the treatment of this disease, and its praises sung for its success (Archibald).

Agnew, in his system of surgery, published forty years ago, gives the mortality of tetanus (acute) to be between 80 and 90 per cent. Jacobson's²⁰ figures (1906) show an average mortality in acute cases to be 83.1 per cent. These figures show a striking similarity at the end of forty years' progress in therapeutics; however, it is only recently that new light has been shed upon the nature of tetanus poison and its mode of reaching the motor ganglia; and while the neutralizing effect of antitoxin on the toxins of tetanus seems to be disappointing at present, a review of the literature will show that, owing to the many different ways in which it has been introduced into the body; the comparatively small number of cases treated by any one observer in the same manner; the difficult problem of standardizing the antitoxin accomplished in this country during the last year, it is hardly safe to say that the last word has been said in favor of its value as a curative agent.

In using antitetanic serum as a prophylactic certain facts have been demonstrated clinically and experimentally.

1. The toxins of tetanus have a peculiar affinity for the nervous tissue, combine with it, and remain fixed within it. It is only after the toxins have saturated the nerve tissue, so to speak, that they are found circulating in the blood. These toxins are taken up by the motor nerves and carried directly to the spinal cord.

2. So far it has not been demonstrated that the antitoxin is taken up at all by the nervous tissue, and even after injections of large quantities, subdurally or otherwise, there will be but a trace found in the cerebrospinal fluid. The antitoxin does not destroy the toxin, but, through some chemical process, renders it inert. (Frazier: Keen's Surgery, 1907.)

Granting that these facts are practical, the prophylactic dose should be injected around the wound, as the absorption of the antitoxin

through the tissues into the general circulation is slow, and for this reason Rogers²¹ recommends the intravenous method. Twenty c. c. should be injected directly into the vein. Remembering that the antitoxin is harmless and that it is soon eliminated, it is wise to give large amounts and frequently. McArthur is quoted as giving the serum as a prophylactic on the first, third, fifth, and seventh days. Although Suter²² has collected twenty-two cases in which tetanus developed after prophylactic injections had been given, he believes that a more liberal use and repeated injections might have prevented its occurrence.

From the experiments of Donitz and others regarding the amount of serum necessary to neutralize a fatal injection of tetanus toxin in animals, it has been shown that the amount of antitoxin to be injected as a prophylactic measure should be directly proportional to the length of time elapsed from the date of injury. In other words, the longer the time after the date of injury, the larger the dose of antitoxin. Following these suggestions Brandenstein²³, in the Berlin Hospital, where he is assistant, has given this preventive by repeated injections, and since the inauguration of this plan no tetanus has developed. Most of the cases treated were injuries caused by street trams and other vehicles.

Anders also gives Shrech's report on prophylaxis:

Tetanus, 1903, 56 cases of Fourth-of-July injuries, 16 deaths.

Tetanus, 1904, 37 cases (prophylactic serum), no deaths.

It becomes evident that the prophylactic treatment is of the utmost importance. Tetanus should be regarded as a possible complication in all Fourth-of-July wounds, gunshot wounds of short range, punctured wounds, lacerated and contused wounds made by rough objects, and railroad and street-car wounds occurring in crowded districts. In the presence of these conditions it would seem that it is the surgeon's duty to mention the possibility of tetanus, and advise the administration of the antitoxin. Certain difficulties will of course be met with, such as expense, inconvenience, and failure on the part of the patient to appreciate the gravity of the consequences of a neglected wound, but the surgeon will be relieved of the responsibility, and if his advice is followed the number of cases will be markedly less.

I shall not dwell upon the local treatment of

the wound, but wish to emphasize the importance of avoiding contaminating a comparatively clean wound by injudicious preliminary examination. Cleanse the surrounding area, protecting the wound in the meantime by sterile gauze as though there was to be an aseptic operation performed. This accomplished, the wound itself may be examined, when, foreign bodies removed, hemorrhage controlled, and in badly contused wounds, excision of the entire injured part or even high amputation is indicated. The use of antiseptics of any unusual strength is contra-indicated, mild lysol solution, salt solution, or a one to three per cent solution of hydrogen peroxide may be used for irrigation. Strong antiseptics seal up the lymph spaces, exclude oxygen, and cause irritation, thereby producing local conditions favorable for the growth of the tetanus bacilli. The dried antitoxin powder, as suggested by McFarland, may be used for dusting the wound in conjunction with the general administration. Bockenheimer (*Archiv. für Klinische Chirurgie*, Berlin, LXXXVI, No. 2) remarks on the affinity existing between tetanus toxin and fats, and regarding attempts at prophylaxis suggests the use of vaselin and peruvian balsam salve as a local application to wounds after cleansing. As the result of his experiments on guinea-pigs, he advocates cleansing the wounds with H_2O_2 and then applying Peruvian balsam salve every day.

Once the disease has become active the treatment of the wound is futile, the toxins now being lodged within the nervous tissue. Serum-therapy has not reduced the mortality when given as a curative agent. The failure may be due to the methods of injection, but in lieu of the theory of Meyer and Ransom the absorption of the toxins by the motor nerve-paths, further experience with the intra-neural injections may be encouraging.

During the last ten years Bacelli has advocated the subcutaneous injection of a 1 per cent solution of carbolic acid in the treatment of tetanus. These injections are repeated until the patient (an adult) has taken 80 grains in twenty-four hours. Two tables give a mortality of 22.6 per cent, but it does not seem to have been used extensively in this country.

Matthews²⁵ salt solution treatment and the subdural injection of morphin-eucain and salt solution, as recommended by Murphy²⁶, have been used in a limited number of cases, but without promising results.

The treatment of tetanus by intraspinal in-

jections of magnesium sulphate has been applied with success in several cases and is the result of the experimental work of S. J. Meltzer and Auer, and Haubold and Meltzer²⁷.

The results of their experiments on monkeys and three human subjects show that intraspinal injections of magnesium sulphate, in doses which do not affect the respiratory center or other vital functions, are capable of abolishing completely all clonic convulsions, tonic contractions in cases of human tetanus, and experimental tetanus in monkeys. The relaxing effects of the injections may last from twenty-four hours to slightly longer periods. They believe that the therapeutic value of the injections of magnesium sulphate lies in the fact that, by abolishing the convulsions clonic and tonic, the animal is tided over a period which enables the newly formed antitoxins to reach such amounts that they overtake the balance of free toxins, and the metabolic processes of the body are assisted in mastering the toxins fixed in the nerve cells.

From the literature of the last year or two I have been able to collect ten cases treated by magnesium sulphate injections. (See table below.)

The results of these cases show a mortality of 30 per cent. If the one case, No. 9, with an incubation-period of four weeks, is excluded the remaining nine acute cases give a mortality of 33 1-3 per cent.

Certain adjuvants, such as morphine, chloral, and bromids, as well as injections of antitetanic serum, were used in connection with the intraspinal injections of the magnesium sulphate, but from the foregoing remarks it seems logical to assume that the last therapeutic measure demands careful consideration and trial, for, with the exception of the carbolic injections of Bacelli, no procedure has given so low a mortality.

In conclusion, I would like to emphasize (1) the importance of regarding a certain class of wounds with suspicion, and the results to be obtained from large, repeated, prophylactic injections of antitetanic serum; (2) the technic of the toilet of minor as well as of major injuries; (3) the value of intraspinal injections of magnesium sulphate to control the spasms, thereby assisting nature in eliminating the toxins which have become fixed in the nervous tissue; (4) the intraneural injection of antitetanic serum deserves a thorough trial in conjunction with the above.

Table of Cases Treated by Magnesium Sulphate

Case No.	Patient	Injury	Onset	Incuba- tion days	Tempera- ture	Duration	Method of Injection	Strength of solution	Number of injections Days	General Treatment	Local Treatment	Blood Count	Result	Author
1	Boy 7	Punct. Wound	rapid	8		30 Days	Hypodermo- clysis	Dr. 2 to oz. 4, aq	12, 13, 14, 17, 19	M. C. B.	Wound opg. Hydro. Per.		Recovery	Lyon- J. A. M. A. May 23, 1908
2	Boy 11		slow	11	106.4°	27 Days	Intraspl	3 c. c. 25%	11, 12, 15	M. C. B.	Excision	10,750 6300 on 27 day	Recovery	Robinson- J. A. M. A. Aug. 10, 1907
3	Boy		sudden	7		20 Days	"	4 and 5 c. c. 25%	5, 7, 9, 10, 16	Antitox.			Recovery	Blake- Surg. Gyn. and Obst. May 1906
4	Child 4		sudden	7		28 Hours	"	1 and 5 c. c. 25%	one				Died	Blake- Surg. Gyn. and Obst. May
5	Boy 11	Blank cart		9		4 Days	"	4 c. c. 25%	2, 3	Antitox.			Died	Logan- J. A. M. A. 1906 p. 1502
6	Woman 24	Vaccina- tion	violent	17		50 Hours	"	4 c. c. 25%	30 hrs and 17 hrs. lat.				Died	Logan- J. A. M. A. 1906 p. 1502
7	Man 32			12			"	1 c. c. 25%	13, 14, 18	Chloral	amp. finger		Recovery	Franke- Zeit. fur innere Med. 1907, Vol. 28 p. 345
8	Boy 2	Punct Wound	rapid	10	102°	20 Hours	Hypodermo- clysis	Dr. 2 Pts. 1 Aq.	13, 14	Antitox.			Recovery	Greeley- Jour. A. M. A. Sept. 14, 1907 p. 940
9	Man 45	Fire Works	slow	28	100°	12 Hours	" and by mouth	Dr. 2 Pts. 1 Aq.	one inj.	mag, sul by mouth,			Recovery	Greeley- Jour. A. M. A. Sept. 14, 1907 p. 940
10	Negro?	Shot		10		16 Days	Intra- spinal	2 c. c. 25%	10, 13, 14	C. B. M. Antitox.			Recovery	Powers- Quoted Jour. A. M. A. May 9, 1908

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VACCINE THERAPY*

BY HENRY L. ULRICH, M. D.

MINNEAPOLIS

On the face of it, vaccine therapy strikes every thinking man, lay or professional, as a natural procedure. Its laborious evolution, the intricate and elaborate principles on which it is based, however, have been the despair of many an earnest and conscientious practitioner. Like some strange cloud on the horizon of his therapeutics, it looms a shadow on his path, inviting and repelling his attention. Low mutterings of dis-

trust and academic discussion are heard, and now and then some flash of light dispels this shadow as some favorable group of cases are crystallized before him. What is he to do? How is he to cope with this new method which is so insistent? And loud above his mental disturbance, he hears the prophet of the new era cry out: "The physician of the future will be an immunizator." On this thought hangs the key to the entrance of this form of therapeutics. Around this thought move the new and rapidly

*Read before the Red River Valley Medical Society, August, 1909, and before the Hennepin County Medical Society, December, 1909.

readjusting ideas of present medicine. Truly, the day is coming when every physician will be an immunizer. But on what does all this depend? I might answer for the practitioner that just as soon as he has grasped the doctrine of immunity,—in so far as he has mastered the practical details of its application,—will he attempt to immunize against disease.

The gratifying results of Hapkins' antiplague inoculations, the favorable results in the Boer war of antityphoid inoculations, the study of the reaction of these inoculations, which in every way were similar in their responses to natural infections, stimulated Sir Almroth Wright to apply the use of bacterial inoculations in persons already afflicted with bacterial diseases. Step by step the various responses to inoculations of dead bacteria, as measured in immunizing substances, were elaborated, and there gradually emerged a system of pathology and therapeutics around these studies which has stimulated the scientific world as in the days of Pasteur.

Had not Behring made his memorable applications of antibodies, or antitoxin, in diphtheria, I venture to say the medical world today would have had an easier time in comprehending, and less distrust of, vaccine therapy. However, Behring's remarkable results, and the ease with which the thing is done, the mere neutralizing

been made comparatively simple. Once the disease affirmed, into the human test-tube would be poured the proper amount of antitoxin, and, presto, the tide of the disease would be turned. But, unfortunately, such is not the case. Nature is too complex, too evolved for such a rule of thumb. The failure to evolve antitoxin in other diseases has clearly shown that we must resort to the process of active immunization in infections; that is, the elaboration by the host of his own antitoxins.

On ultimate analysis, even serum therapy, such as used in diphtheria, tetanus, and botulinus, is really vaccine therapy, for, may I ask, how does the horse, which furnishes these therapeutic agents, get his enormous antitoxic values if not by means of bacterial inoculations?

In every infection there occurs the invasion, the period of incubation, the reaction and its results:

1. Complete immunity or restitution.
2. Incomplete immunity, or partial restitution, usually manifesting itself in the fact that the infection fastens itself like a parasite on the host.
3. No immunity, or death.

What happens when an infectious agent lodges in an individual, in terms of reactive substances, can be seen by consulting the chart:

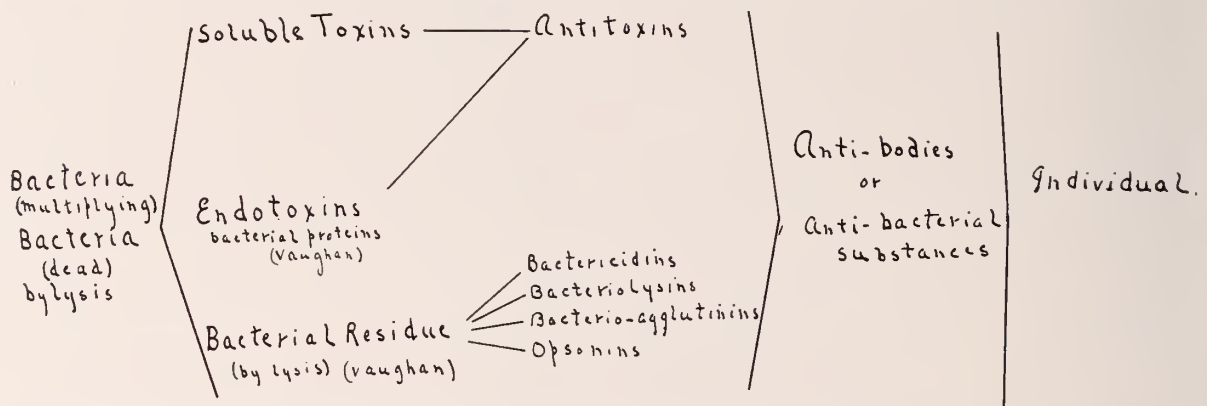


Chart 1. Illustrates compositely the reaction between the invading bacterium and the organism. (It may evoke some academic questions as to its accuracy, as, for instance, Do endotoxins stimulate the production of antitoxins?)

of a poison by its antipoinson, have led the practitioner away from the far more rational and natural procedure of active immunization. All the infectious diseases of known origin were given a trial for antitoxin. Only three stand out: diphtheria, tetanus, and botulinus. It would be delightful had every infectious organism the same reaction in the body which diphtheria, tetanus, and botulinus have displayed. The practice of treating infectious diseases would have

In bringing vaccine therapy to your notice, it is germane to review critically the methods hitherto employed by physicians to combat infectious diseases. These may be tabulated:*

1. By means of chemical antiseptics.
2. By extirpation of the focus.
3. By means of determination of lymph to the focus.

*Throughout the argumentative portions of this paper I have followed Wright very closely. See his "Studies in Immunity."

4. Serum therapy.

5. Expectant treatment.

Before their brief consideration, one can say in a general sense that these methods have not given adequate satisfaction.

The users of antiseptics, from a physiological standpoint, are convicted at first hand. It is a fallacy to hope that antiseptics which will combine more readily with the tissue cells than with the bacteria they are expected to destroy, will do this without injury to the part. No amount of inhalations of antiseptic sprays, no amount taken by mouth, or flooded into a cavity, bladder, or urethra, will affect pathogenic organisms so as to produce a cure. It is universally agreed that saprophytes and their foul discharges on unhealthy tissue, will submit to antiseptic treatment.

The total extirpation of a focus of infection is a rational procedure when a diseased organ can readily be spared, and when it is probable that general infection or other foci has not supervened. Just here, how is one to say that such is the case? In all other respects, such a method is too mutilating and impractical in so many instances to be of general usage.

For the determination of lymph to the focus, there are many ways. It can be done by fomentations, massage, Bier's treatment, Beck's bismuth injections, radiotherapy, free incision into infiltrated tissue, evacuation, and drainage of abscess cavities. In all of these methods, a circulation of blood to the part results with a corresponding free flow of lymph. And in most instances a curative response is elicited, especially where the focus has an external vent. In the conditions where the focus has no direct external opening, bacteria and bacterial products are washed into the lymph and blood streams. A condition similar to the inoculation of dead bacteria is produced. Here again, while results are obtained, the unmeasured amount of bacteria, or bacterial products, is an element of great uncertainty, and instances are numerous of disaster following any one of these methods.

In serum therapy the field is limited to a few diseases. It is questionable whether the various antisera on the market, with the exception of the "globulin" antitoxin of diphtheria, are really true antisera. It may be that in many of these, toxins or bacterial substances from the blood of the animal presumably immunized, and from which the serum is derived, are carried presumptively as antibodies, which give them their name. Here again a species of inoculations

would occur in the use of such sera which would in no wise differ in their responsive effect from vaccine therapy.

By expectant treatment, we simply mean that we leave the patient to fight it out. "The destiny of the patient is left to chance." No one will dispute the fact that by this method in generalized infections much better results have been obtained than by active medication. The results in typhoid show a mortality of 10 per cent to 20 per cent; in pneumonia, 15 per cent; in other diseases, such as streptococcal and staphylococcal septicemia, the mortalities are much higher. On reflection also, besides the poor results of expectant treatment in septicemia, the great majority of infections, such as they are, are of a local nature, and here the expectant treatment is of no value whatever. Only when general invasion occurs does the body address itself seriously to repel the invader. In local conditions nature is slow, if not careless, to throw it off; and, after all, as Wright most philosophically put it, "the really serious ills of life are the various localized bacterial infections which, sooner or later, fasten upon every man, never afterwards releasing their hold."

I have already gone over the chart which shows what presumably occurs in the reaction of the body to infection. I wish now to give a brief sketch of this mechanism when dead bacteria are inoculated. You will recall the body protects itself by means of the leucocytes, which ingest bacteria and have the ability to digest them, and also by means of the antibacterial substances already enumerated. These substances are called bacteriotropic, because of their attraction for the bacterium and its products which has stimulated their origin. Hence, when a number of dead bacteria are inserted into healthy subcutaneous tissue of an individual infected with the type of organism injected, they come in contact with an already sensitized cell-grouping; at the same time, in the general circulation, the bacteriotropic pressure may be high or low. At the site of inoculation autolysis occurs, liberating the toxins of the bacteria which stimulate the neighboring cells to elaborate antitoxins, whereas the toxins which escape into the general circulation call on remote cell-groupings to do the same. In other words, a localized, as well as a general, stimulus of the immunizing mechanism is called into play. If the dose is efficient and sufficient, there will be a quick drop, with a corresponding rise of the immunizing substances in the general circulation. If the infection is gen-

eral this drop is synchronous with an increase of toxins, and presumably an increase of symptoms, then a gradual, sometimes rapid decrease of toxemia, as manifested by the condition of the patient, and an increase of bacteriotropic substances in the blood. Repeated stimuli of this nature at stated intervals generally raise the antibacterial elements so that neutralization of toxin and destruction of bacteria is complete, and restitution is obtained.

In the choice of a vaccine, whether it should be autogenetic or stock, the theoretical evidence is in favor of the former. In some instances it is imperative, but in general and practical experience, stock vaccines give sufficient stimuli to obtain results.

It has been shown repeatedly that when an infection occurs, the responses of all bacteriotropic substances practically obey the same law: that is, during invasion there is a negative phase or decrease of these substances, and during the reaction, if it is curative, there is a positive phase or increase of these substances. It has also been shown that these substances vary in time of appearance and concentration during a disease, and that where one group might be measured in one instance, the same group is not as manifest in another disease of different bacterial origin. With the discovery of opsonins, however, we have arrived at a constantly present factor in the immunizing mechanism. Washed leucocytes, bacteria, and blood serum can always be obtained, and with these three factors in the experiment, we can readily estimate the opsonic power of the blood.

In this connection, it is timely to consider the doctrine of auto-inoculation. Following the application of massage, or any method to increase the circulation of an organ or infected area, it was seen that we had to deal with a distinct change in the bacteriotropic elements of the blood.

That following this method of increasing the circulation, a species of inoculation occurs, either bacteria or their products are worked into the general blood-stream, which produce corresponding fluctuations in the bacteriotropic elements, just as in natural infections or artificial inoculations of dead bacteria. These auto-inoculations are of two kinds: (1) The spontaneous auto-inoculations, which occur naturally in every case, whether there is a general infection or only an area locally involved.

In general infections, and where the focus is of such a nature, either too large or that it can-

not be put to rest, the condition of spontaneous auto-inoculation is constantly taking place.

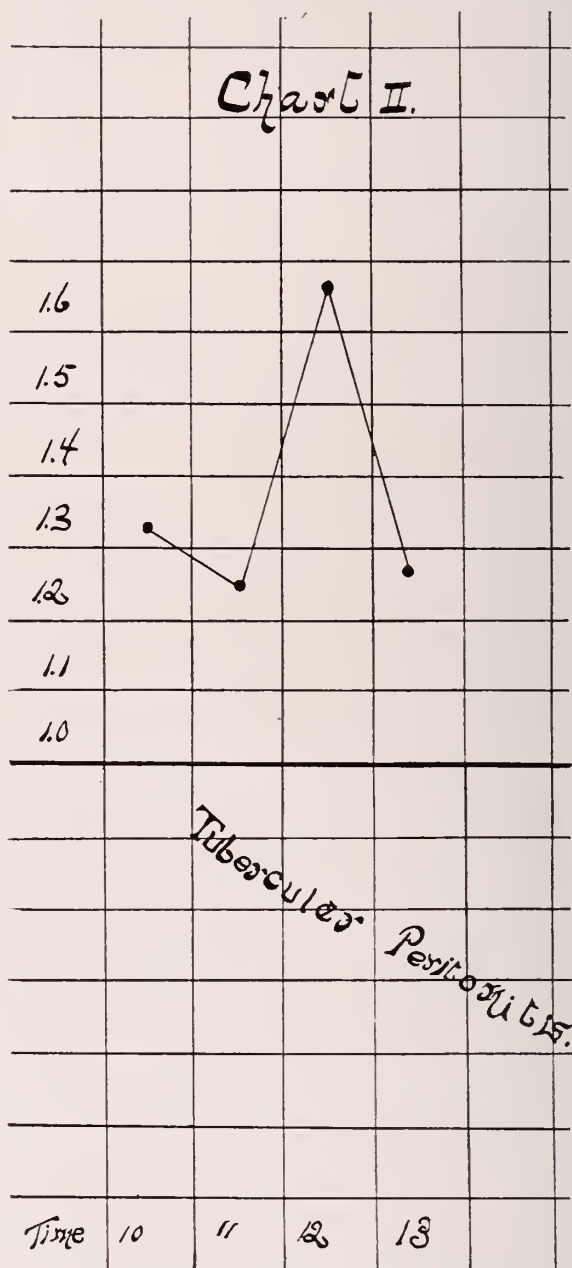


Chart 2 and 3. Spontaneous auto-inoculations, as illustrated by the fluctuations in the opsonic index in the case of (2) tubercular peritonitis, and (3) tuberculous of the lungs. (Chart 3 is after Inman, London Lancet.)

In these cases the difficulty of judging artificial inoculations, when and how to superimpose them on the auto-inoculations, is the most trying thing the immunizator has to deal with. Here, far more than in any other condition, the opsonic index must be his guide. It is different, however, where the auto-inoculations can be controlled. For after a definite period of arti-

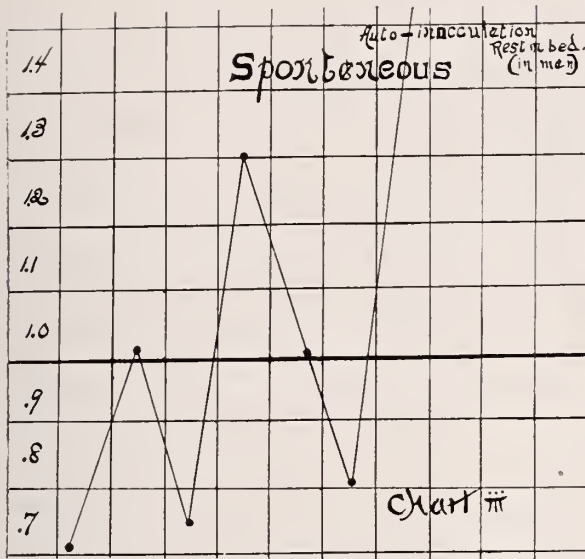


Chart No. 3

ficial inoculation, the auto-inoculations may be called into play and be superimposed on the bacterial inoculation with increased therapeutic results. The use of auto-inoculations as the only means of producing curative responses has been most successfully worked out by Patterson of the Fremley Sanatorium for Consumptives. His system of graduated exercises in the cure of afebrile cases of tuberculosis is based on this principle.

In local infections, depending on the area involved, by means of rest we can practically eliminate the spontaneously induced auto-inoculations. It is wise to follow this course in the beginning of the treatment with bacterial inoculations, in order that our artificial inoculations may not have the picture of their responses confused by those of the auto-inoculations.

The other type of auto-inoculation is the artificially induced auto-inoculations, obtained, as mentioned above, by increasing the circulation to the part. This method, when intelligently used, has produced the cures which have made our osteopaths, our masseurs, Bier's treatment, and Beck's bismuth paste famous. The danger here, as was pointed out in our consideration of the methods of combating infections, is our inability to judge accurately when and how much of a hyperemia to induce, in order to get the most curative response.

Another and most ingenious use of these artificially induced auto-inoculations is in the diagnosis of a disease. Since we know that auto-inoculations produce fluctuations of the bacteriotropic substances in the general circulation, it is reasonable to suppose that if a fluctuation in the opsonic index for tubercle bacilli, in a case of suspected tuberculosis of a joint, occurs following massage of the infected joint, that we

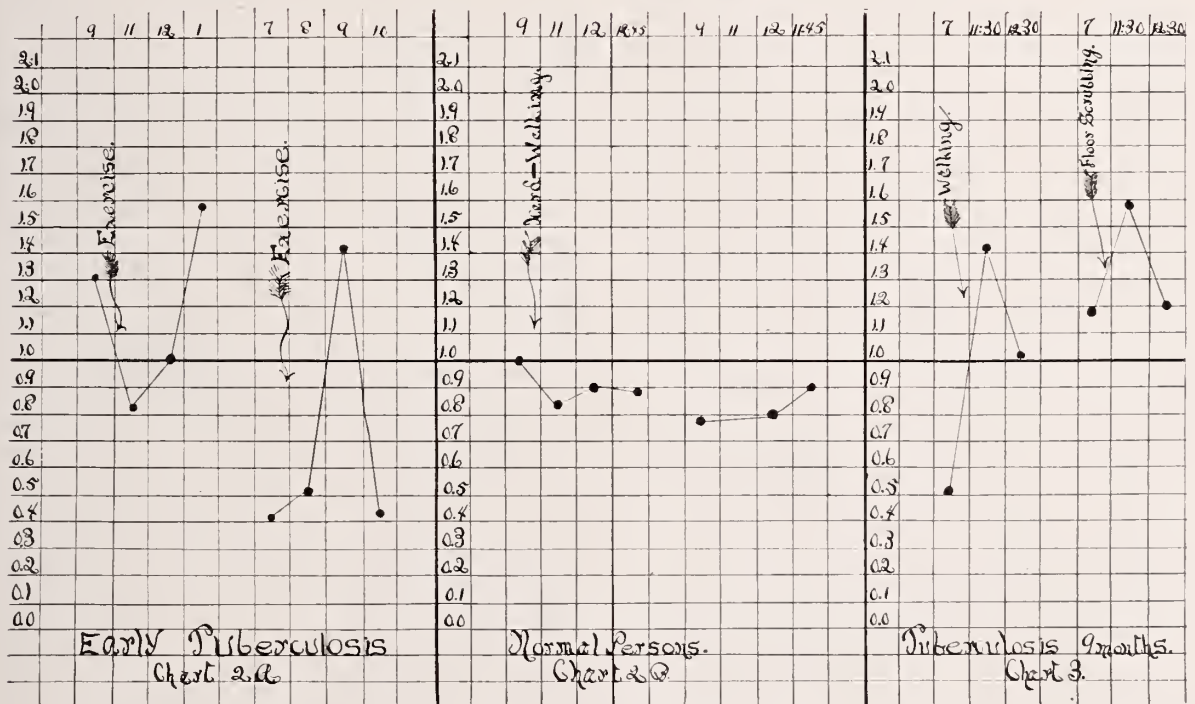


Chart 4. Opsonic readings following exercise in four cases of tuberculosis and two normal individuals showing auto-inoculations derived thereby. Note the lack of fluctuation in the normal individuals. (After Inman.)

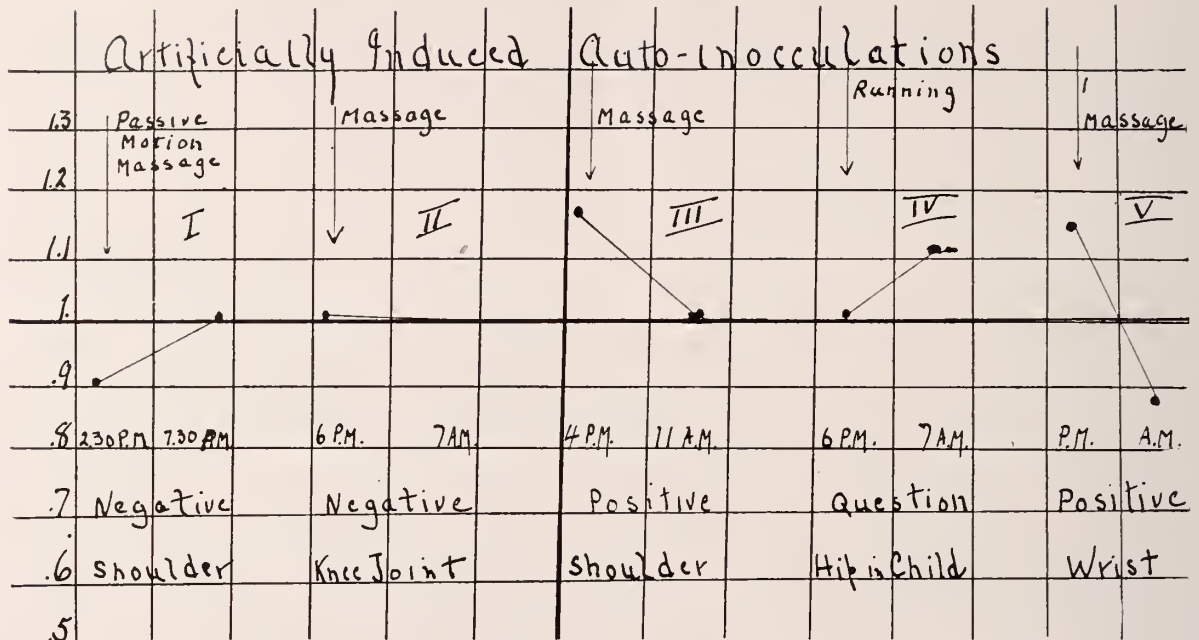


Chart 5 and 6. A series of opsonic readings taken before and after artificially induced auto-inoculations by means of active or passive motion of the part involved in localized suspected infections, supposedly of tubercular origin. Wolff-Eisner agrees with Wright that in this method we have one of the most delicate means of determining infection due to tuberculosis. (Früh Diagn. u. Tuberkulose-Immunität. Pps. 77 and 78.)

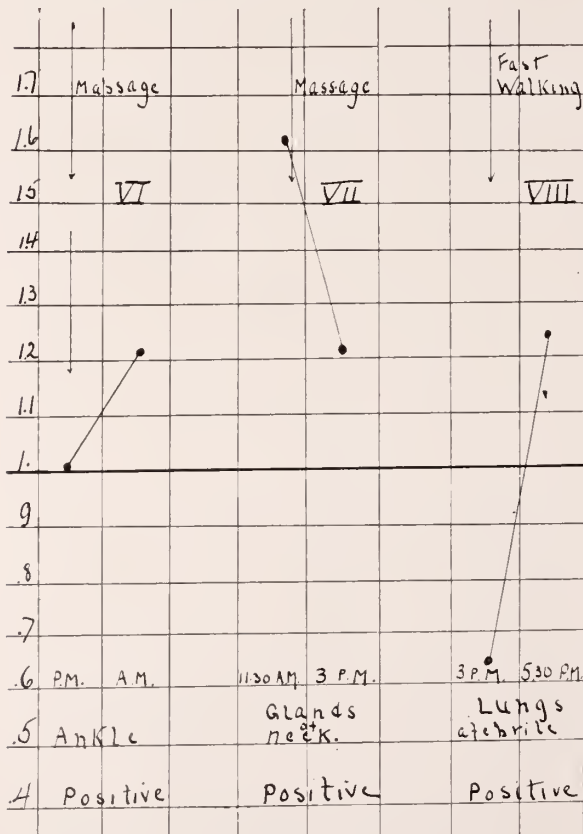


Chart No. 6

are dealing with a tubercular joint. This rule holds good for other portions of the body and for other bacterial infections.

We will now return to the pathological changes which obtain in infection. We have discussed what occurs in the general circulation when a general or local infection makes itself manifest. We can likewise dismiss the general infections with the remark, stated in another connection, that whenever there is an invasion of the general system by bacteria the body immediately begins the serious business of repelling the invasion. Likewise, when there is a local infection after the body has thrown up a defensive wall around it, it again must gradually reduce this wall in order to throw off the local incubus. This form of local reaction, or inflammation, varies in different parts of the body and with different organisms. These reactions also need special individual consideration in the application of vaccine therapy to obtain a cure. We have to deal with, classifying them briefly:

1. Brawny swelling,—where the lymph and blood channels are clogged up allowing but slow, if any, circulation to the part.

2. The condition of an abscess, which, in a measure, is a further pathological state of the brawny swelling. The tissues here are broken down owing to the tryptic ferment of the dead leucocytes, forming a fluid recognized physically by fluctuations. This fluid consists of digested tissue cells, leucocytes, and bacteria. The walls of this cavity are made up of a dense infiltrated mass simulating very much the brawny swelling.

3. In the condition of scab-formation you have a crust of lymph and blood under which a sodden mass of cell-deterioration, coagulated lymph, permits an excellent nidus for bacterial growth.

4. The conditions of the sinus. Of these there are two: the freely discharging sinus, which stimulates an abscess cavity, and the dry sinus, which, owing to the poor nutrition of its walls, permits a dried collection of lymph, on which bacteria easily find a feeding-ground.

5. The reaction of effusion, which manifests itself by a preponderance of fluid in the part.

It is with local types of infections the practitioner has most to contend. If he recalls the fact that in bringing about local immunity, whereas the leucocyte plays an important part, the *lymph* which arrives at the site is of more primary importance; for in the lymph are contained all the bacteriotropic substances, including the opsonins, which sensitize the bacteria for phagocytosis. Hence, any attempt directed at a local focus must involve two principles: First, he must *satisfy* himself that in the general circulation there are immunizing substances, and, secondly, he must attack the local conditions in such a way as to bring these immunizing substances to the part.

In the condition of brawny swelling, free incision, fomentation, massage, and Bier's treatment will all contribute to an increased circulation to the part. They do more. They also, by means of the increased circulation, flush into the general system bacterial substances, and even the bacteria themselves, thus producing auto-inoculation which, in turn, provided the auto-inoculation has been efficient and sufficient, responds by an increase of antibacterial substances, which are brought to the part with curative responses.

In the condition of an abscess, the one method of determining lymph to the part has been by means of evacuation of the pus by incision or aspiration. This has been the usual procedure up to now. It is suggested that, in connection with evacuation and dependent on the condition of the antibacterial substances in the general circulation, the bacteriotropic pressure in the cavity be maintained as high as that of the general circulation by a constant stream of fresh lymph. This can be done by washing with and applying a wet dressing moistened with a hypertonic salt and sodium citrate solution. The sodium citrate prevents the clotting of the lymph, whereas the hypertonic salt will produce a flow of lymph by

osmotic pressure. This method is far superior to the methods of cupping and suction wherein the danger lies in breaking down of vessels and capillaries.

In the condition of sinuses the same rule of procedure applies which has just been elaborated for abscesses.

In scab-formation, liberation of the scab and application of hypertonic salt and sodium citrate will induce free flow of lymph, with curative response.

In the condition of an effusion you have a localized collection of lymph in which all bacteria, except typhoid and vibriocholera, may maintain themselves. As the lymph collects and stands it becomes a mechanical hindrance to the leucocytes; its bacteriotropic substances are soon lost by adsorption by the bacteria; and the lymph becomes a mere culture-tube for bacterial growth. Evacuation by aspiration will relieve the mechanical condition; and there will be a fresh flow of lymph, rich in antibacterial substances, with a curative response.

It has been presumed in all of this local effort that the large reservoir,—that is, the general circulation,—has been duly observed, and that as its antibacterial elements declined they were replaced by properly timed stimuli brought about by efficient dosage of vaccines.

In local conditions not accessible, where the part cannot be inspected, blood-examinations and the general condition of the patient will tell us what progress or regress is being made. The question here is constantly before us, Is the local site giving any, or is there too much auto-inoculation? In the majority of instances absolute rest will eliminate the auto-inoculations. There are times also when we wish to shut off the local site, in order to permit us to raise the general reservoir's antibacterial values. This can be done by giving the patient, internally, substances which will thicken the blood, so to speak, and shorten the clotting period of the lymph. Such a state of the blood will necessitate it to flow more slowly through the infected part and presumably throw a wall of clotted lymph around the focus. In the same way the reverse holds good. We can hasten the entrance of lymph, rich in antibacterial substances, by lowering the calcium contents of the blood, and thus breaking down the clotted wall around a focus, we thereby hasten the healing of the part.

As the policy is self-evident that therapeutic immunization should be resorted to in every case

of bacterial infection where the bacteriotropic substances are below the standard necessary for effective curative response; and as, if the general circulation is rich in antibacterial substances in local infections, a free flow of lymph to the part is essential to bring about the curative result to the part,—how can the practitioner avail himself of this knowledge? Theoretically speaking, he cannot without the use of a well-organized laboratory where blood-examinations, especially the opsonic technic, can be skillfully made.

In the meanwhile in all local conditions he must content himself with the inspection of the part involved; and he must study the laws of ebb and flow of immunizing substances, as expressed in the general condition of the patient, and as they have been worked out for certain bacterial infections, gleaned from the general conclusion when and how much of a dose of vaccine is essential to continue the curative stimuli. In conditions unavailable for inspection, the temperature, the character of the discharge, the various reflexes, such as the urinary reflex, physical examination, and subjective signs, will, in a measure, give him some idea of what is taking place. But here, most emphatically, without the use of the index as an additional guide, grave errors in judgment are most likely to occur. A cautious use of vaccines in diseases, well worked out, will give the beginner a basis on which he can learn to adjudicate responses. At the present time the only practical method admissible is to call in the use of the index when a puzzling or more complex condition is met with. While this is far from ideal the practical difficulties in the way demand that we either do not use this form of therapeutics, or proceed cautiously, and in difficulty call in the aid of the more experienced interpreter of clinical and laboratory findings.

This leads us naturally to the limitations inherent in this system of therapeutics. We have already touched on an important point, namely, the labor and training involved. The decision to be made in such a crisis is for the practitioner alone. If he thinks the saving of a life is far beyond any time or labor which may be involved, he will cheerfully set about to remove the difficulties in his path.

Again, we must constantly keep in mind that when we use vaccine therapy we are not furnishing the patient protective substances, but merely stimuli to elaborate these substances, and the result of these elaborations is always conditional upon the right choice, right dosage, and inter-

spacing of vaccine, and also, on the other hand, on the ability of the patient to produce immunizing substances.

Again, we must not forget that the protective substances, which are elaborated in response to the inoculation of a vaccine, disappear rapidly from the blood. From this it can be seen that in case we do not eliminate infection immediately, and this can be hoped for only in incipient stages, that a period of longer or shorter duration of repeated vaccinations must ensue, for as long as there is a residue of infection, or the channel of infection is left unguarded, with bacterial infections, recrudescence and fresh infections must be expected.

In those cases of general or local infection where auto-inoculations are occurring, vaccine therapy is especially hard put.

Lastly, we must realize that what can be directly achieved by vaccine therapy is nothing more than a greater protective power in the circulating blood, and that where an area of infection is cut off from the general circulation, all the amount of elaboration we may possibly hope to get will not give curative response until the wall between the general circulation and the part is broken down.

REPORT OF CASES

I will now call your attention to a series of cases which will illustrate more or less the principles we had under discussion. These were selected in order to bring out somewhat the range which this form of therapy embraces. Some of them I merely prepared vaccines for, or assisted in giving an opinion. They also attempt to show the practical possibility of this treatment by the practitioner.

Case 1.—J. M., aged 22, female. Referred to me by Dr. E. H. Parker, July, 1908.

Complaint: Chronic purulent expectoration. If patient is turned on the left side when lying down with head slightly dependent, mucopus pours out of her mouth, varying in amount from one-half to one pint. This condition has existed long,—ever since childhood. Patient gives a history of pneumonia at this period. The patient was emaciated, suffered from periodic exacerbations of malaise, and was being treated by Dr. Parker for ozena.

Physical examination made out the diagnosis of bronchiectasis of the right lung. Repeated attempts to culture the organisms in the sputum failed, as the rapid growing saprophytes in the mucopurulent matter overran the media in twenty-four hours. It was noticed, however, a diplobacillus was present in all smears. I might add that repeated attempts to find the tubercle bacillus failed. A stock vaccine was on hand of the diplobacillus of pneumonia—Friedlander's bacillus. The patient was given 50M. of this, upon which a decided reaction supervened. She received this vaccine from

July, 1908, up to the present time at intervals. The number of injections made is forty-two. From the first there was a distinct improvement, which gradually has arrived at a state of fairly good health, and increase of weight and spirit. Her sputum has reduced to a small tablespoonful, and is of a mucous type. Her weight has increased ten pounds. At stated intervals she also received inhalents to take care of the saprophytes in the dilated bronchi, and for the purpose of auto-inoculations. It would be impossible to free this woman entirely from sputum. The dilated bronchus or bronchi will always be a reservoir for secretions in that lung.

Case 2.—J. C., aged 26. Complaint: "Lung trouble,"—asthma, paroxysmal in type, and profuse coughing and expectorations.

Physical examination gave signs of chronic bronchitis. Heart is normal. The condition was a chronic bronchitis, which, at frequent intervals, gave rise to intoxication, causing asthmatic symptoms and profuse bronchorrhea. A large bacillus was isolated from his sputum, which gave off the same odor that his breath contained. This odor was intensely disagreeable, and rather pungent. He received seven injections of 40M. of this bacillus. He improved very much in a general sense. He lost his offensive breath, and the paroxysms decreased in number. The sputum had changed in character; it now had a mucopurulent appearance, and was less in amount. A bacillus resembling the colon types was isolated, and a vaccine made. To the vaccine the patient responded readily. He was free from paroxysms for six weeks. During his two last successive visits, I gave the patient too much of a dose, and he had typical paroxysms. He dismissed the treatment in disgust.

Case 3.—A localized tuberculosis. W. H. S., aged 30; sent to me by Dr. Little for diagnosis.

Complaint: Swollen wrist and hand, right side. There was injury five weeks ago, followed by swelling and pain the next day. Following the injury the patient also had an attack of tonsillitis, which confined him to bed for several days. He repaired to an osteopath for two weeks, who gave him seven treatments, electric vibrator and massage, also passive motion of the wrist. He was then treated by Dr. Little by means of Bier's hyperemia. The question arose: Was it tubercle bacillus or some other organism causing the inflammation at the wrist? His opsonic index fluctuated from 1.14 to 0.95 in six hours following massage. The diagnosis of tuberculosis was made, and Dr. Little referred him to me for tuberculin treatment. He received fourteen inoculations of tuberculin, B. E., 1-10,000 mgm., in a period extending from December 21, 1908, to April 30, 1909. The wrist at first was put absolutely at rest. He improved immediately. In February the splint was removed, and a simple bandage was worn. In March the patient was ordered to use his wrist to assist his improvement by auto-inoculations, and at the present writing he has complete function.

Case 4.—V. B., aged 26. Referred by Dr. Woodard, June 10, 1908.

Tubercular peritonitis. Operation for appendicitis and abscess cavity. There was a sinus in the median line, and slight lung involvement. The patient had a temperature of 103° when her first vaccination of tuberculin, B. E., was given. She received from June 10th to October 17th, a period of five months, eleven injections. The sinus closed, the temperature came down

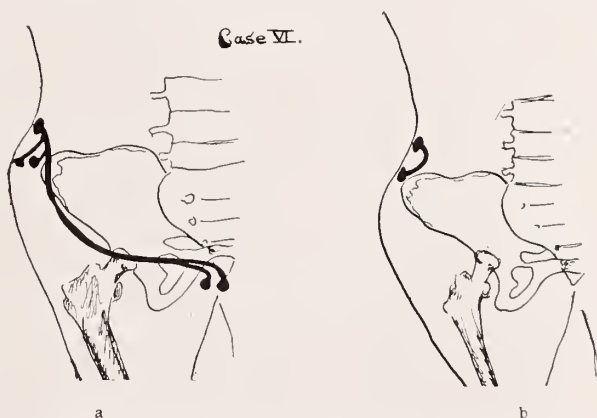
to normal, and the patient gained in weight. In the meanwhile she had learned the doctrine of auto-inoculation by graduated exercise, which was carefully and assiduously carried out. Today she is in excellent health.

Case 5.—D. H., aged 23. Referred by Dr. G. G. Eitel, March 13, 1909.

Patient has a sinus in the right pelvic region, and tuberculosis of the cecum. The appendix had been removed two weeks before. There is lung involvement in the right apex. The patient received tuberculin, B. E., 1-10,000 mgm., at intervals of ten days for six weeks. At no time did he respond in an immunizing way. Inoculations were withheld. At the end of June the patient died. Here clearly was a case where the immunizing mechanism defaulted, and no form of treatment would have availed.

Case 6.—P. H., aged 34; physician.

The patient was operated on in March, 1906, for appendicitis. In June, 1906, the pelvis was explored twice along Poupart's ligament, extraperitoneally. Granular tissue was curetted and swabbed out with carbolic followed by iodine-iodoform emulsion. In January, 1907, the operation was repeated. He spent the winter in Texas. In April, 1907, the ilium was trephined and a perineal drain inserted, followed by second operation, which laid open Scarpa's triangle, and again the sinus was curetted. In May, 1908, he began vaccine therapy (see chart 4). Up to this time the patient was anemic, running a low temperature. His opsonic index to tubercle bacilli at no time varied beyond the normal. Tuberculosis was excluded. He received 250 m. staphylococcal vaccine (stock), his smears of the discharges having shown this organism. His general condition improved; he gained weight and color. In June, 1908, his own coccus was isolated, and an autogenetic vaccine was given. At the end of June, a streptococcus was isolated from his sinuses. He received three doses of an autogenetic streptococcal vaccine. Patient objected to the local reactions in each instance, and refused the streptococcal vaccine. The staphylococcal vaccine was continued. The discharges in the sinuses decreased. In June the sinus in Scarpa's triangle had closed. In August the patient had left the city and was lost sight of. In December he reported with all sinuses closed, except the two upper ones in the chart. Pure streptococci were found in these sinuses. He is now receiving streptococcal vaccine.



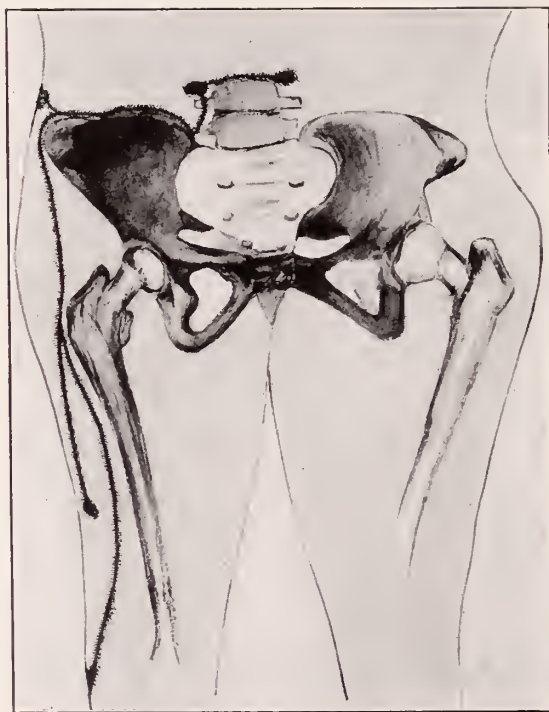
Case 6. This chart in a schematic way attempts to show the extent and direction of the sinuses. In *a* two of the openings above the pelvis are in the back. In *b* the openings are front and back, respectively.

Case 7.—Treated by Dr. C. Reed. (Notes by Dr. Reed.) A. D., aged 35, female.

Diagnosis,—lumbar Pott's disease.

History: Abscess in lumbar region opened in 1899, and closed in a few months. In 1902 the lumbar abscess opened again. This was followed by openings over trochanter and outer aspect of thigh just above the knee.

Sinuses were discharging profusely on November 19, 1908, when first seen. Bismuth paste was injected for radiographic purposes, which showed sinuses from the lower end of the femur to the third lumbar vertebra. The pus contained staphylococcus. Stock vaccine was used every ten days for sixty days. The discharge was reduced, but still required dressings twice a day. Capacity of sinuses, $3\frac{1}{2}$ oz. The patient, however, felt better; and had gained a good color and put on weight. On March 1st the patient returned, complaining of pain in the thigh and swelling over the middle of the thigh with deep fluctuation. One ounce of pus was evacuated. One month later this sinus was injected with bismuth paste, and a radiograph taken, which showed a sinus remaining up past the point of the trochanter. At the lower end of this were two bone sequestra. These were removed, and were found to be pieces of vertebra about 1 cm. square, which had wandered a distance of over 50 cm. The staphylococcic vaccines were resumed at intervals of ten days, and the sinus injected three times with bismuth paste. Following this the sinuses in the thigh were all closed for the first time in seven years. The lumbar sinus reduced to a capacity of about 2-3 cc., which remains closed for days at a time, and discharges but a few drops a day.



Case 7. This chart illustrates the extent of the sinuses made out by means of the x-ray and probing. At the time of writing, the sinuses had closed, except the two small openings on either side of the spine.

The general condition is so markedly improved that one can hardly realize he is dealing with the same person.

Case 8.—Treated and reported by Dr. A. Robertson, of Litchfield, Minn. The following are excerpts from his notes: Mrs. L., farmer's wife, aged 45. Confined twenty years ago. Pelvic infection followed; post-vaginal puncture made; fistula resulted. The condition went from bad to worse until she had about fifty sinuses opening on the back, both hips and abdomen. Her condition grew worse yearly. In 1904 eminent Chicago surgeons tried to locate the "primary focus," and extensive operations were performed without any results.

In September, 1908, when first seen, the extent of infection was astonishing. The patient was in fairly good physical condition, but having an afternoon rise of temperature ranging to 101° . She was only able to sleep in the knee-chest position. The back and hips were full of sinus-openings, and very painful. Smears and cultures were made of the discharges. Cultures gave evidence of two microorganisms, a staphylococcus and a diplobacillus, which resembled the colon group. Vaccines were made under Dr. Ulrich's directions, and inoculations given every seven days. At first, 250 m. staphylococcus and 100 m. coli were given; later this was gradually raised to 500 m. staphylococcus and 200 m. coli. After January 6, 1909, her temperature, which gradually came down, remained normal and the sinuses were closing. All attempts at washing out sinuses, and making stimulating applications to the parts, had to be abandoned on account of the pain they produced. The general health of the patient at the present writing is good; she is gaining in weight; she can lie down on either hip; she does her housework. At present there are but four sinuses open; these are located on her back, high up; and, if I may venture an opinion, I think they will be closed in a month. I have advised a continuance of the vaccine therapy until all sinuses have closed.

Case 9.—Under treatment with Dr. C. F. Denny, of St. Paul, to whom I am indebted for this history and opinion.

J. P., aged 60. Gleet discharge; prostatitis chronica in 1906, evidently the result of an improperly treated acute gonorrhea when younger. The condition was treated more or less successfully up to the present time, but in spite of all the floor of the bladder became involved. The treatment prior to vaccine injections covered the whole ground of irrigations and topical applications, silver salts, etc. The prostate gland, while not greatly enlarged, laterally was hard and tender, and about six months ago it was evident the median lobe was the cause of the increased residual urine, which gave rise to much irritation, frequent urination, and rising at night, with growing loss of expulsive power. May 23d the pus and blood were examined. The organism present proved a staphylococcus aureus. His opsonic index to gonococcus was normal when tested at intervals. His index to the staphylococcus found in his urinary sediment varied,—below normal at each test. He was put on a staphylococcic vaccine.

At the start the residual urine amounted to four ounces. Besides vaccine therapy, he received irrigations and prostatic massage. The results up to date, are, in Dr. Denny's own words, as follows: "The patient

says his bladder feels better than for six years. There is an average less residual. There is clearer urine, no more ropy pus; micturition, day and night, nearly normal. The prostate is less irritable and hard."

Case 10.—Treated, and notes by Dr. E. J. Brown, Minneapolis.

Helen H., aged 22. A case of acute otitis media with antrum involvement. The antrum was opened the second day after the onset of symptoms. Two days following the operation, after which, it might be added, the patient had grown steadily worse, she was in a comatose condition; extremely toxic, with marked cerebrospinal signs. Lumbar puncture was clear. The culture proved negative. The sinus of the antrum pus

contained pure streptococci. She received 10 m. streptococcic vaccine. The following day the patient was conscious; the next day rational, and asked for nourishment. The third day another dose of 10 m. was given. Pyemic swelling in ankle and elbow noted. Pus evacuated at elbow. There was steady improvement henceforth. The patient left the hospital thirty-two days after the first injection of vaccine, she having had four injections all told in that period.

There is no doubt we were dealing with a streptococcic septicemia in this instance. The first and second injections took care of the blood invasions, but were unable to avoid local deposits. The local deposits took a longer period to establish immunity.

NEWS ITEMS

The Montevideo hospital will open about July first.

Dr. L. A. Faulkner has moved from Mankato to Pequot.

Dr. F. O. Smith has moved from Brentford, S. D., to Reeder, N. D.

Dr. Fred P. Strathern, of St. Peter, is doing post-graduate work in Chicago.

Dr. L. O. Kron, of Kenmare, N. D., has been doing post-graduate work in Chicago.

Dr. John R. Buser, of the staff of the Biwabik hospital, will resume private practice.

Dr. E. Y. Arnold, who has practiced many years at Swanville, has moved to Minneapolis.

Dr. A. G. Anderson of Hillsboro, N. D., will spend the summer in Europe in post-graduate work.

Dr. C. A. Burton, of Albert Lea, is in Chicago doing post-graduate work, and will remain several weeks.

Dr. Leroy Newkirk, of Minneapolis, was married last week to Miss Louise Leavenworth, also of this city.

Columbia University has conferred the honorary degree of doctor of science upon Dr. William J. Mayo.

Dr. C. J. Bloom, of Lake Park, has moved to Mora and become associated with the Drs. Nelson, of that place.

Dr. Iver Sivertsen, of Minneapolis, has returned from a trip abroad. He spent most of his time in Vienna.

The new hospital at Mandan, N. D., was opened last week, but the entire building is not quite ready for occupancy.

Dr. J. C. McCarthy, on the staff of the McKinley hospital, has accepted a position on the staff of the Biwabik hospital.

Dr. B. H. Haynes, of St. James, has returned from Chicago where he has been doing post-graduate work for several months.

Dr. Henrik S. Schanche, who formerly practiced in Park River, N. D., and recently moved to Minot, in the same state, died last month.

Dr. Samuel B. Coe, one of the old-time physicians of Minnesota, who last practiced at Morristown, died last week at the age of 75.

The Southern Minnesota Medical Association will hold its annual meeting in Winona on August 4th. An interesting program will be given.

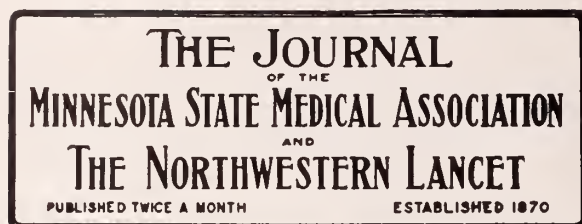
The large addition to the St. John's hospital at Red Wing was dedicated last month. With the new addition the building has cost about \$50,000.

Dr. J. B. Murphy, of Chicago, was elected president of the American Medical Association for the current year. The meeting of 1911 will be held at Los Angeles, Cal.

Dr. P. F. Brown, of Eveleth, who has been connected with the More hospital at that place for three or four years, will move to Minneapolis, and enter general practice.

Dr. Fred H. Powers, a graduate of Rush, has located at Marshall. Dr. Powers was associated for some time with Dr. E. Fletcher Ingalls, of Chicago, a specialist and a professor in Rush.

(Continued on page 261.)



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JUNE 15, 1910

THE AMERICAN MEDICAL ASSOCIATION

The meeting of the A. M. A. at St. Louis this year was punctuated by a few spectacular events. The first one was the publication of the report of Abraham Flexner of the Carnegie Foundation.

Two or three St. Louis schools were hard hit, and the newspapers permitted the agrieved college men to reply.

To an outsider or to one who is a member of the faculty of a school approved and applauded by Flexner the comments of the interested men were more or less amusing.

Washington University came out on top, evidently, and as a result there is more or less jealousy in the less-favored colleges. The editorials in the great dailies were very fair in their analysis of the report and, on the whole, upheld the criticisms of Flexner.

Another sensation was the failure of the Lydston bomb. No explosion occurred during any part of the session of the House of Delegates. The alleged bomb must have been wrapped in cotton, its fuse forgotten, and, if left in the neighborhood at all, must have been deposited in an obscure corner.

The papers were full of what Lydston expected to do, but no one seemed to be impressed. In order to give all insurgents a free hand, Dr. Simmons resigned the office of secretary. This the Lydstonites hailed with joy, but when the delegates decided upon the election of a secretary a member from Texas re-nominated Dr. Simmons and called the insurgents a bunch of howling covotes. Forty members of the House of Delegates seconded the nomination, and the vote was unanimously in favor of Dr. Simmons, who is now in his former position more securely intrenched than before.

There is a gradual change in the attitude of many critics who begin to realize that big organizations need big methods and big men. Let us hope, and expect, that the attacks upon the organization will cease and that all scurrilous literature will be dumped into waste-baskets, where much of it has evidently gone.

Another sensation, an agreeable one also, was the election of Dr. J. B. Murphy, of Chicago, to the presidency. There was but little force exerted against his election, 77 votes for Dr. Murphy and 38 for Dr. Jacobi.

Dr. Welch, the retiring president, made a tremendously good impression and his address was clear and full of practical points.

The opening session of the Association meeting is inspiring up to a certain point,—a large audience, a big band playing digestible music, and the filling of the stage with notable men. The introduction of foreign guests and the speeches of welcome by the minister, the mayor, the governor, the president of the state and the local medical societies, are usually entertaining, even if somewhat prolonged, and last comes the address of the president. And just why such addresses should be so formal and learned, instead of cordial, simple, and short, is rather difficult to understand. This criticism does not apply to this particular time, but to the opening meetings in general.

The sessions were fairly well attended, although the general registration was below the average.

The social features were marred by an unwelcome rainstorm, but the section dinners were eaten in the usual style and with more or less dignity, except the surgical dinner. It was said to have contained vaudeville features not on the bill of fare.

The next meeting-place caused a hot contention between Buffalo and Los Angeles, the latter winning by three votes. This means that

a small attendance from the eastern states may be expected, and it will give the middle and far West an opportunity to demonstrate the advisability of dividing the A. M. A. into smaller sections, in order that the greater body may not become unwieldy.

The hospitality and care with which St. Louis physicians and others entertained their guests, publicly and privately, renew the cordial ties that have existed for years.

THE TYPHOID CURVES IN MINNEAPOLIS

The table and chart published herewith give an interesting account of the number of cases of typhoid fever reported from the records of the Commissioner of Health. The table also shows the percentage of deaths in the years and the months passed. Apparently, the death-rate is unduly high, but the actual number of deaths in comparison with the actual number of cases that are believed to have existed in Minneapolis, would reduce the death-rate to the normal.

It will be noted from the chart that just before the high point was reached the health de-

partment issued a warning through the newspapers. Coincidentally with the warning the river was covered with ice, which means a larger number of typhoid cases than when the river is clear and exposed to the sun's rays.

Immediately before the highest point and the greatest number of cases occurred, the city installed its new hypochlorite plant, but this had little or nothing to do with the sudden fall in the number of cases. It simply happened that many factors combined to reduce the epidemic. It is believed, however, and has been sufficiently proven, that the hypochlorite treatment of the city water supply would have an equal effectiveness. The installation of a mechanical filter in addition to the hypochlorite treatment, will effectually clear and free the water from harmful bacteria. The mechanical filter will take up the coloring matter and remove gross and macroscopic poisons, and thus make it possible and much easier to sterilize the water by hypochlorite.

It is to be hoped that the water problem will be definitely settled for Minneapolis and that it will be safe for anyone to drink Minneapolis water at any time with no fear of ulterior results.

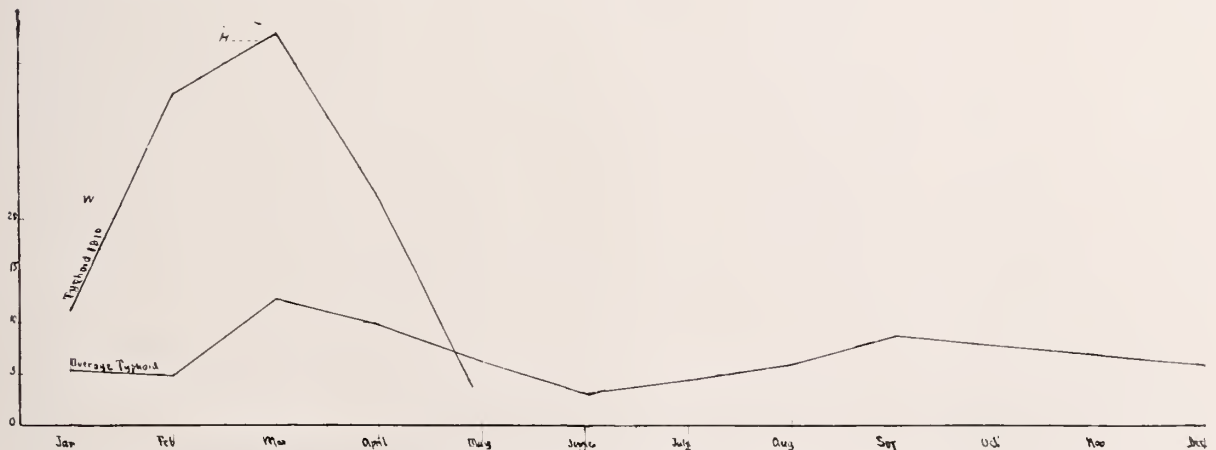
DEATHS FROM TYPHOID FEVER, MINNEAPOLIS, FOR THE YEARS 1900-1910

	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	*	†	‡
January	5	5	3	7	15	3	5	4	5	1	11	4.2	5.8	5.3
February .....	..	4	2	2	17	4	8	7	2	1	32	3.3	7.2	4.7
March	9	25	8	14	29	7	9	9	3	10	38	10.4	14.7	12.3
April	3	25	8	17	10	5	13	10	3	5	22	8.9	11	9.9
May	6	11	5	5	9	4	10	9	1	3	..	6.0	5.8	6.3
June	1	5	4	3	4	1	7	1	3	3	..	3.2	3.2	3.2
July	12	5	1	4	4	7	3	5	2	1	..	4.4	4.4	4.4
August	6	8	8	9	3	2	11	4	4	4	..	5.9	5.9	5.9
September	13	11	9	10	8	4	11	5	6	10	..	8.7	8.7	8.7
October	12	8	4	7	1	6	9	9	11	10	..	7.7	7.7	7.7
November	5	10	10	9	3	10	8	8	2	3	..	6.8	6.8	6.8
December	8	4	4	8	..	9	3	6	8	8	..	5.8	5.8	5.8
	80	121	66	95	103	62	97	77	50	59				

*Average except two epidemics.

†Average.

‡Average except last epidemic.



W indicates the time when warning was given to the public not to use the city water without boiling it. H is the high point of the epidemic and the time of beginning the use of hypochlorite.

AN EPOCH-MAKING REPORT

The report on the medical colleges of the United States and Canada, made by Mr. Albert Flexner, under the auspices of the Carnegie Foundation, cannot fail to have very far-reaching effects. It is a very able document. It deals unsparingly with the big and the little medical schools that have failed to reach a degree of efficiency that justifies their existence, and yet it is so specific and clear in its statements of facts that probably not one of the many institutions sorely, if not fatally, wounded by such presentation of the actual conditions existing in them, will attempt to make any reply whatever, at least none in contradiction of the damaging evidence against them, and perhaps nothing in justification.

That the report will put many of these schools out of existence is unquestionable, for it makes it impossible for a self-respecting board of medical examiners to recognize diplomas issued by such schools, and, it clearly follows, when the graduates of any school are shut out of even a few states, such school will not find students. We are confident that Minnesota will cut off of its list of recognized schools the whole brood, and it is a large one.

The medical department of our own university and that of the University of North Dakota receive, throughout the report, very high commendation.

We shall give in our next issue an extended review of this report, in order to place emphasis upon the salient points of it.

A PERNICIOUS MALPRACTICE SUIT

A peculiar and a seemingly blackmail suit was recently begun in the courts of Hennepin County against a Minneapolis physician, Dr. H. G. Lampson. The complaint is herewith printed in full, in order to show to what lengths an attorney will go when he sees an opportunity to bleed a physician. It also shows the absurdity of such complaints and the misconception that a layman may have of a medical man.

How one can assert that a physician can, by placing his hand upon a patient's head and, with the other hand, pound on her head, and thereby fracture the base of her skull, fracture her collar bone and destroy the hearing of one ear and destroy the sight of one eye, as well as cause other internal injuries, is past comprehension.

A brother physician who saw the complaint said that if Jeffries or Johnson were to put a hand on a women's head and give a real pu-

gilistic blow with the other hand, he *might* produce a fracture of the skull, but he doubted it.

Dr. Lampson deserves praise for his effort and willingness to fight the suit. Many offers of settlement were made by the plaintiff, but were refused by the physician. When a proposition for a settlement for \$200 was made, it was rejected.

Several efforts were made to have the plaintiff examined by a physician, but each time the engagement was broken. Finally the court ordered an examination at the office of the writer, fixing the day and hour. The appointment was not kept, and as a result the court dismissed the case.

The expense incurred by Dr. Lampson was considerable, approximately \$250 in cash and several days' time in travel and loss of office hours.

To know that an irresponsible person, represented by an attorney who belongs to the ambulance-chaser class, can place a reputable medical man in such an embarrassing position is very disconcerting.

The case is a very strong argument in favor of medical defense, such as has already been promulgated by the Minnesota State Medical Association. The complaint was as follows:

State of Minnesota, County of Hennepin, District Court,
Fourth Judicial District.

CHRISTINA SWANSON.

Plaintiff,

vs.

H. G. LAMPSON,

Defendant.

Plaintiff for her complaint herein alleges:

I.

That on the 21st day of January, A. D. 1908, and for a long time prior thereto, defendant was a duly licensed and practicing physician and surgeon and was employed by the city of Washburn, Bayfield County, Wisconsin, as a City Physician and Surgeon, and held himself out as such and represented himself to be, both to this plaintiff and to the public in general, a scientific and competent physician and surgeon and as fully qualified for the practice of both medicine and surgery.

II.

That at the said city of Washburn in the said county of Bayfield and state of Wisconsin, plaintiff, during the fall of 1906, accidentally fell upon a slippery sidewalk thereby causing an injury to her left hip and also inflammation of her spinal column.

III.

That prior to the said 21st day of January, 1908, and after the time said accident occurred so as aforesaid, plaintiff appeared in person before the city council within and for the said city of Washburn, Bayfield County, Wisconsin, for the purpose of presenting her claim against the said city of Washburn for injuries sustained so as aforesaid; that before the said city

council of the said city of Washburn would take action on the said claim so as aforesaid mentioned, the then president of the said city council, whose name is at this time unknown to this plaintiff, directed and instructed this plaintiff to submit herself to an examination by this defendant, then City Physician of the said City of Washburn, Wisconsin, for the purpose of determining the extent of the injuries to this plaintiff.

IV.

That on the said 21st day of January, 1908, in compliance with the directions and instructions of the said president of the said City Council of the said City of Washburn, plaintiff did go to the office of said defendant and did then and there submit herself to an examination, and said defendant then and there undertook to examine this plaintiff as to the extent of her injuries to her spinal column and otherwise; that during such examination defendant did, among other things, and for the purpose of testing the strength of plaintiff's spinal column, place one of his hands on plaintiff's head, and with the other hand, pound her on her head and thereby fractured the base of her skull, fractured her collar-bone, destroyed the hearing of one ear, destroyed the sight of her right eye and caused other internal injuries.

V.

That such injuries were caused by and through the negligent, careless, unskilful and ignorant manner in which said defendant conducted said examination.

VI.

That said injuries are permanent and that this plaintiff will be a cripple for the rest of her natural life, and now is, and forever will be, suffering great pain both in body and mind, to plaintiff's damage in the sum of Fifty Thousand Dollars.

VII.

That prior to said accident this plaintiff was a well and able-bodied woman, capable of earning, and earning, the sum of Fifty Dollars (\$50) per month, but that since said accident and injury caused so as aforesaid by the carelessness and negligence of defendant as aforesaid, she has been unable to perform any work or labor whatever either for the support of herself or her invalid husband for whom she was the sole and only support prior to said injury, and as plaintiff is informed and believes, she will never again be able to perform any work or labor whatever, to plaintiff's further damage in the sum of \$1,500. That in the treatment of said injury caused by defendant's negligence so as aforesaid, plaintiff has been compelled to pay out and expend, and as she is informed and believes, will in the future be compelled to pay out and expend, the sum of \$1,000, in which amount this plaintiff has been further damaged. That by reason of the premises, this plaintiff has been damaged in the sum of Fifty-two Thousand Five Hundred Dollars (\$52,500).

WHEREFORE, plaintiff demands judgment against said defendant for the sum of fifty-two thousand five hundred dollars (\$52,500) with his costs and disbursements herein.

THOS. D. SCHALL,

Attorney for Plaintiff.

NEWS ITEMS

(Continued from page 257.)

Dr. J. C. Elsom, the medical examiner of the University of Wisconsin, asserts that every one of the fifty men who have cheated in their examination showed physical and mental defects not found in 8,000 of their classmates.

The editor of THE JOURNAL LANCET, having served two terms as secretary of the section on nervous and mental diseases of the American Medical Association, was made chairman of the section at the St. Louis meeting last week.

Dr. Henry H. Clark, of Watertown, S. D., was given a farewell banquet by the physicians of that city last month upon his removal from that city. Dr. Clark had practiced ten years in Watertown, and stood high with the profession.

In our last issue the statement was made that Dr. Helen Hughes, now Mrs. Dr. Hielscher, was a graduate of the University of Michigan. She is a graduate of the University of Minnesota, but her sister, Dr. Jane Hughes, also of Mankato, is a graduate of Michigan.

Dr. C. L. Wilbur, statistician of the Division of Vital Statistics, has issued a report concerning reported centenarians. He asserts that the age of 100 is only occasionally attained, and that 110 is the limit that has ever been reached as shown by incontrovertible evidence.

The Northwestern Hospital of Moorhead now has the united support of practically all the physicians in Moorhead and Clay County, and it is believed the hospital has a bright future before it. Dr. Darrow's action in giving up his private hospital and lending his support to the Northwestern is highly praised.

Dr. E. A. Meyerding, physician to the School Board of St. Paul, made a report to the board last month, in which he said that out of 3,000 children examined 2,940 were defective. Over 600 were suffering from malnutrition, and as many of these were in the best homes as in the poorest. Enough food, but not the right kind, is the finding of Dr. Meyerding.

Dr. L. B. Baldwin has been appointed superintendent of the University Hospital. Dr. Baldwin graduated from the University with the class of '96. After having received some hospital experience he went to Jamestown, N. D.,

[illegible]

REPORTED FROM 72 CITIES HAVING A POPULATION OF 1,000 OR UPWARDS
FOR THE MONTH OF MARCH, 1910

CITIES.	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Acute Anterior Polo Myelitis	Typhoid Fever	Diarrheal Diseases of Children	Cancer	Puerperal Septicemia
Albert Lea	4,500	5,657	9														
Anoka	3,769	4,053	6														
Austin	5,474	6,489	2														
Barnesville	1,326	1,566	2														
Bemidji	2,183	3,800	3	1													
Blue Earth	2,900	2,364	3														
Brainerd	7,524	8,131	21	1													
Chaska	2,165	2,085	2														
Chatfield	1,426	1,300	5														
Cloquet	3,074	6,117	3	1													
Crookston	5,359	6,794	6		1												
Detroit	2,060	2,149	3	1						1							
Duluth	52,968	64,942	87	1	1	13			2	1							
East Grand Forks	2,077	2,481	2	1													
Ely	3,712	4,045	9														
Eveleth	2,752	5,332	7														
Faribault	7,868	8,279	9		2												
Fairmont	3,440	2,955	*														
Fergus Falls	6,072	6,692	5		1												
Granite Falls	1,214	1,340	2														
Hastings	3,811	3,810	4						1								
Hutchinson	2,495	2,489	2							1							
Jordan	1,270	1,311	1														
Lake City	2,744	2,877	4														
Litchfield	2,280	2,415	4														
Little Falls	5,774	5,856	8	1													
Luverne	2,223	2,272	3														
Le Sueur	1,937	1,842	2														
Madison	1,336	1,604	1														
Mankato	10,559	10,996	13	3													
Marshall	2,088	2,243	2														
Melrose	1,768	2,151	2														
Minneapolis	202,718	261,974	332	47	7	35	2	4	6	12		1	2	41	12	15	3
Montgomery	979	1,281	2														
Montevideo	2,146	2,595	2														
Moorhead	3,730	4,794	4	1													
Morris	1,934	2,003	3														
New Prague	1,228	1,419	3														
New Ulm	5,403	5,720	6	1													
Northfield	3,210	3,438	3														
Ortonville	1,247	1,612	4														
Owatonna	5,561	5,651	12	1													
Pipestone	2,536	2,885	0														
Red Lake Falls	1,885	1,797	4														
Red Wing	7,525	8,149	8														
Redwood Falls	1,661	1,806	0														
Renville	1,075	1,229	1														
Rochester	6,843	7,233	25	1		5											
Rushford	1,100	1,133	0														
St. Charles	1,304	1,238	2														
St. Cloud	8,663	9,422	10	2					1								
St. James	2,607	2,320	1														
St. Paul	163,632	197,323	250	29	6	29	1	10	10	10							
St. Peter	4,302	4,514	3														
Sauk Centre	2,220	2,463	2														
Shakopee	2,046	2,069	1														
Sleepy Eye	2,046	2,312	0														
South St. Paul	2,322	3,458	3														
Stillwater	12,318	12,435	8														
Thief River Falls	1,819	3,502	4														
Tower	1,366	1,340	0						1								
Tracy	1,911	2,015	3														
Virginia	2,962	6,056	3														
Wabasha	2,528	2,619	1														
Warren	1,276	1,640	2														
Waseca	3,103	2,838	3	1													
Waterville	1,260	1,383	1														
West St. Paul	1,830	2,100	2														
Willmar	3,409	4,040	0						1								
Windom	1,944	1,884	0														
Winona	19,714	20,334	32	3		7											
Worthington	2,386	2,276	2														

*No report received. Health officer not doing his duty.

REPORTED FROM 65 VILLAGES HAVING A POPULATION OF 1,000 OR UPWARDS
FOR THE MONTH OF MARCH, 1910

VILLAGES.	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Acute Anterior Polio Myelitis	Typhoid Fever	Diarrheal Diseases of Children	Cancer	Puerperal Septicemia
Ada	1,253	1,515	0														
Adrian	1,258	1,184	0														
Aitkin	1,719	1,896	0														
Akeley		1,636	0														
Alexandria	2,681	3,051	6			1											
Appleton	1,184	1,321	*														
Belle Plaine	1,121	1,301	0														
Benson	1,525	1,766	0														
Breckenridge	1,282	1,850	3														
Buffalo	1,040	1,124	1														
Caledonia	1,175	1,405	2														
Canby	1,100	1,505	1														
Cannon Falls	1,239	1,460	1														
Cass Lake	546	1,062	3														
Chisholm		4,231	11			3											
Dawson	962	1,056	3														
Delano	967	1,023	0														
Fosston	864	1,000	0														
Frazee	1,000	1,146	2		1	1											
Glencoe	1,780	1,805	0														
Glenwood	1,116	1,718	2														
Graceville	856	1,032	0														
Grand Rapids	1,428	2,055	8	1		2											
Hallock	805	1,014	0														
Hibbing	2,481	6,566	13			3		1	1								
Jackson	1,756	1,776	2	1													
Janesville	1,254	1,205	1														
Kasson	1,112	1,049	1													1	
Kenyon	1,202	1,252	3														1
Lake Crystal	1,215	1,231	1														
Lanesboro	1,102	1,041	2						1								
Long Prairie	1,385	1,256	1														
Madelia	1,272	1,290	2														
Milaca	1,204	1,319	1														
Mountain Lake	959	1,063	0														
North Mankato	939	1,129	2	1													
North St. Paul	1,110	1,400	1			1											
Olivia	970	1,019	2														
Osakis	917	1,056	2			1								1			
Park Rapids	1,313	1,719	1														1
Pelican Rapids	1,033	1,095	2														
Perham	1,182	1,366	*														
Pine City	993	1,092	0														
Plainview	1,038	1,140	2														
Preston	1,278	1,320	1														
Princeton	1,319	1,704	3			2								1			
Rush City	987	1,041	0														
Rushford	1,062	1,040	1														
St. Louis Park	1,325	1,491	1			1											
Sandstone	1,189	1,589	2	1										1			
Sauk Rapids	1,391	1,552	1														
Scanlon		1,122	*														
South Stillwater	1,422	1,572	1										1				
Springfield	1,511	1,546	1														
Spring Valley	1,770	1,573	*														
Staples	1,504	2,163	2			1											
Two Harbors	3,278	4,402	4						1		1				1		
Wadena	1,520	1,868	2														
Wells	2,017	1,814	*														
West Minneapolis	2,250	2,530	2														
Wheaton	1,132	1,346	2														
White Bear Lake	1,288	1,724	0														
Winnebago City	1,816	1,553	2														
Winthrop	813	1,031	4	1													
Zumbrota	1,119	1,129	2														
State Institutions			39	8		1											
Other parts of State	1,012,328	1,085,886	798	63	6	84	2	14	13	12	1	9	3	10	16	45	
Total for State	1,751,395	1,979,658	1946	183	26	222	8	41	34	38	1	15	7	72	49	107	8

*No report received. Health officer not doing his duty.

159 Still births and premature births, not included in above totals.

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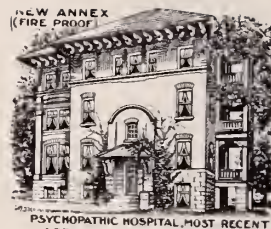


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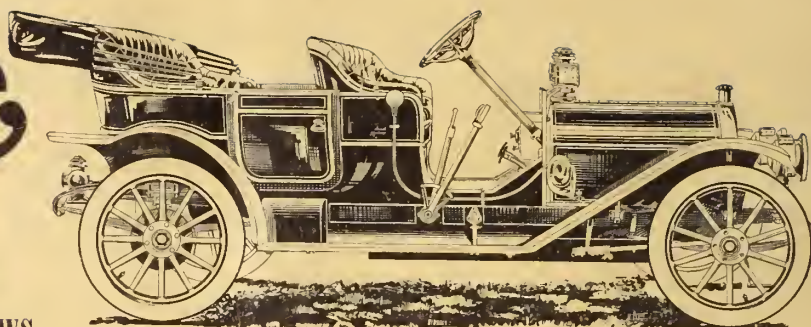
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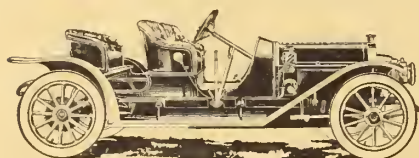


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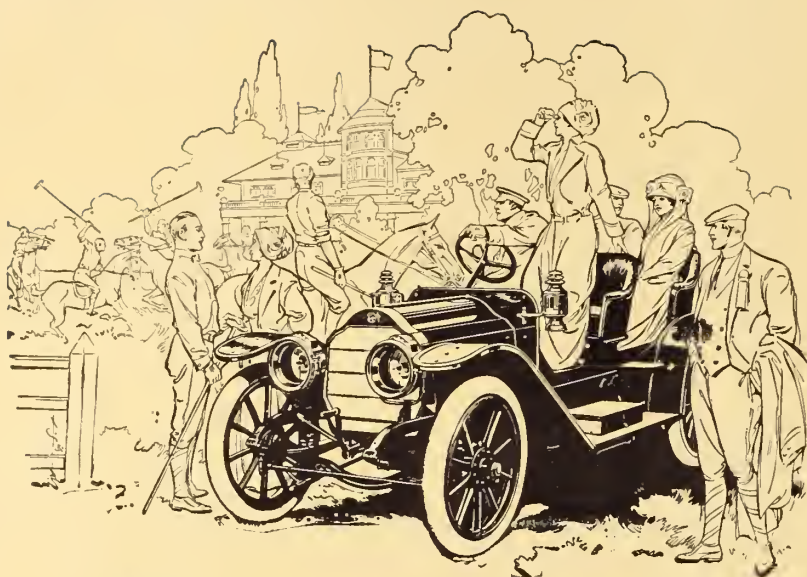
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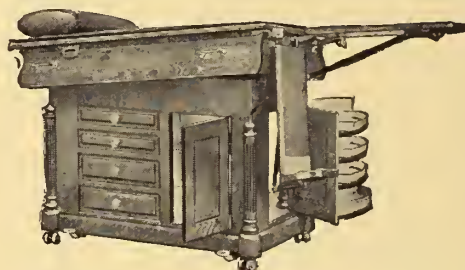
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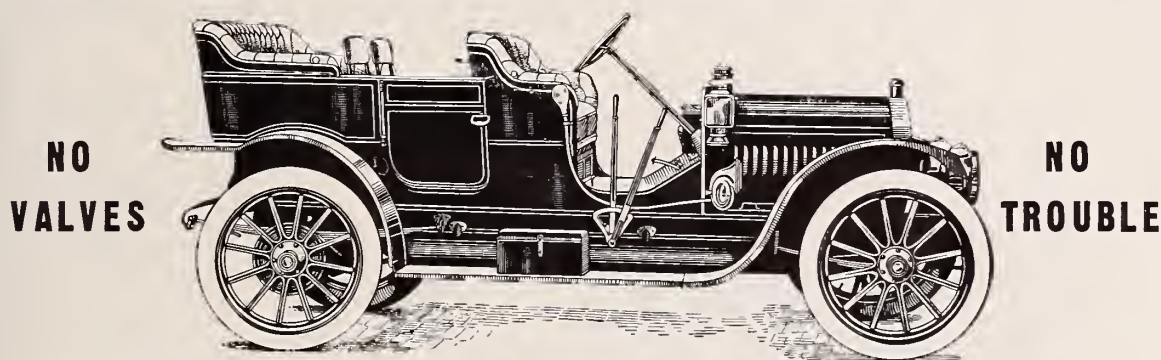
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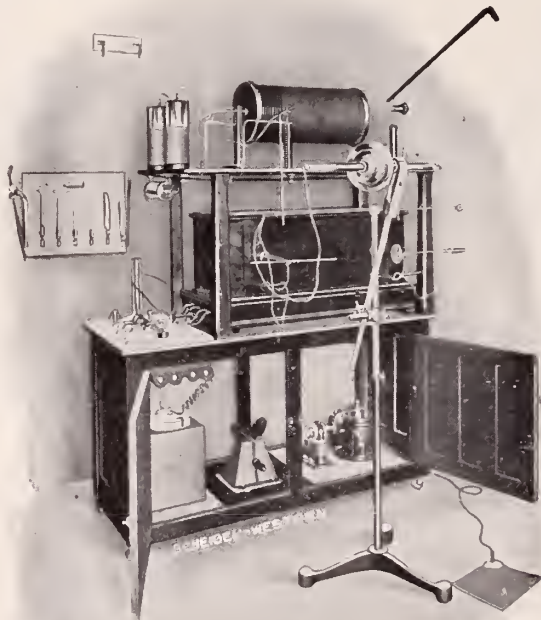
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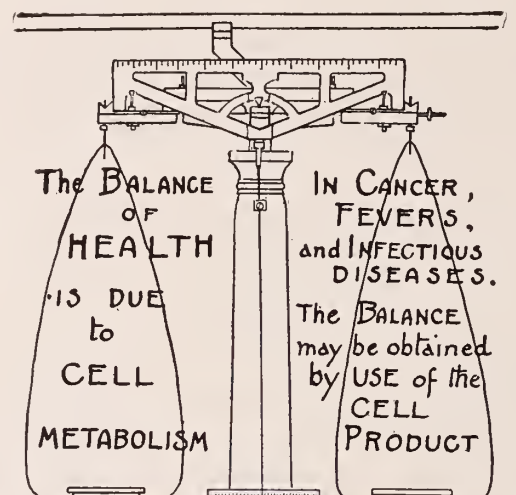
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CHRONIC INFLAMMATION OF THE PROSTATE*

By FRANKLIN R. WRIGHT, M. D.

*Clinical Professor of Genito-urinary diseases, University of Minnesota; and Genito-urinary Surgeon to St. Barnabas and the Minneapolis City Hospitals.

MINNEAPOLIS

Inflammation of the prostate is a disease of middle life, but is quite common in men of advanced years, and occurs occasionally in children. The majority of cases are secondary to inflammation of the urethra, or injuries of the urethra received during the rough or careless passage of a sound, catheter, or other instrument. That infection may be carried to the prostate by the blood- or lymph-streams, is shown by the cases of inflammation of the prostate reported as complications of the various acute diseases, such as smallpox, typhoid, pneumonia, tonsillitis, carbuncle, and furuncle. Chronic prostatitis is usually preceded by an acute attack. Gonorrhea is the most common cause. It also frequently accompanies stricture, stone, and cystitis, and even follows injuries of the perineum. It occasionally occurs in connection with hemorrhoids or anal fissures in cases where no urethral infection can be traced. Hypertrophy of the prostate is the principal cause in men of advanced years. Here the circulation-balance in the prostate is disturbed by the developing tumor, and infection is carried to the prostate either by the blood-stream or the passage of a catheter, no matter how carefully made. Long-continued sexual abuses, as masturbation or coitus interruptus, are followed by the so-called aseptic prostatitis.

A chronically inflamed prostate may not be

greatly altered in size or form. It may be somewhat enlarged or it may be shrunken and smaller than normal, if it has been the seat of abscess or if the inflammation be of long duration. In consistency it may be soft and edematous; it may be firmer than normal; or part of the gland may be enlarged and soft and the other part firm and hard.

The microscopical changes in chronic prostatitis show two stages: first, a small cell-infiltration and a proliferation of the fixed connective tissue cells. This condition is found principally about the ducts of the prostatic glands, but also extends deep in the tissue of the prostate, and may involve not only the ducts, but the prostatic glands themselves. The epithelium over these infiltrated areas desquamates and is replaced by pavement cells. The ducts of the glands contain desquamated epithelium and polynuclear leucocytes in varying numbers. This periglandular infiltration may not affect all the glands, so that in one part of the prostate is thickened and infiltrated, and in another part entirely normal, glands may be found.

The second stage is that of atrophy or sclerosis in which the newly formed connective tissue shrinks. If the shrinking involves the outlet of the gland, its lumen may be compressed and narrowed, causing stagnation of the glandular contents. If it involves the secreting portion of the gland, its function, or even the gland itself, may be completely destroyed.

*Read before the Camp Release District Medical Society, October, 1909.

Clinically chronic prostatitis gives a many-sided picture. At times the symptoms are plain and point directly to a diagnosis. In other cases the symptoms apparently have no relation to the prostate. Again, the symptoms in one patient may be so severe that he is a great sufferer, and the next patient have scarcely any trouble.

The symptoms may be grouped together under several heads:

1. Disturbances of urination.
2. Alterations in the urine.
3. Abnormal sensations.
4. Disturbances of the sexual function.
5. Changes in the secretion of the glands.

Disturbances of Urination.—The patient may complain of frequent urination. This may be present at night as well as during the day. The presence of even small quantities of urine in the bladder causes an uncontrollable desire to urinate. The act of urination is not followed by the normal sense of relief, but leaves an uneasy, uncomfortable feeling at the neck of the bladder, which at times may amount to the tenesmus. The urine may be slow to start, or the patient may complain that after he thinks his bladder is emptied, small quantities of urine will dribble away. The act of urination may be accompanied by a tickling or burning sensation in the urethra. This may be limited to the posterior urethra or may extend along the entire canal. It may also radiate over the perineum and anal region.

Changes in the Urine.—The urine may be perfectly clear and free from shreds, or loaded with pus. It may remain clear for weeks at a time, then a few shreds or a slight cloudiness may appear. These shreds or cloudiness may be seen in the last portion of the urine only. This is due to the fact that the contraction of the muscular elements of the prostate, in an effort to force the last drop of urine out of the posterior urethra, presses the accumulated pathological secretion out of the prostatic glands into the posterior urethra where it mixes with the last drops of the urine. In cases where the secretion of pus in the prostatic glands is very profuse, it is poured into the posterior urethra. Whenever the posterior urethra becomes overfilled the pus, passing in the direction of least resistance, enters the bladder and mixes with the urine. These are the cases in which the urine is loaded with pus. This condition may be present in a case giving no subjective prostatic symptoms, and could be easily mistaken for pyelitis, while the cases having clear urine containing shreds are frequently

diagnosed as simple posterior urethritis. The excretory function of the kidney may be stimulated, and the patient may pass large quantities of urine of low specific gravity.

Abnormal Sensations.—Abnormal sensations may vary from a slight feeling of weight or pressure in the perineum, or a sensation in the prostate which does not amount to pain, but simply keeps the patient constantly reminded that he has a prostate gland, to a severe pain of heavy boring, tearing character. This pain may follow certain motions, as during the act of rising from a chair or after riding, or it may occur periodically without apparent cause. It may be felt in the prostate only, or may radiate along the cord, into the sacrum, to the perineum and anal region, or in the neighborhood of the kidney, to the hip-joint, or down the leg. Not only may the pain radiate toward, but it may occur in, any of these regions without the slightest sensation in the prostate to betray its origin. These cases of referred pain are by no means uncommon, but occur with such frequency that a patient who complains of pain in any of these regions, where a direct cause cannot be found, should have his prostate examined. The normal prostate is sensitive to pressure, and its palpation is painful. This painfulness has a quality that is characteristic of the prostate, but has not the qualities of the referred pain. During an examination occasionally a patient will explain that the pain produced by the examination is the same pain, that is, has the same qualities which have been troubling him; or he will tell you that the pressure of your finger has "started" the pain in his leg or his back.

Disturbances of the Sexual Function.—In the class who complain of sexual disturbances we find men who complain of intense sexual excitement,—the most innocent social amusement, where ladies are present, may be a torture to them; others who complain of being troubled with frequent and prolonged erection, which may or may not be accompanied by sexual desire; others who complain of precipitate ejaculations; and also others who tell of insufficient erections, or even of complete failure. These patients soon learn to watch themselves for the slightest change in their condition. This change is, in their minds, always for the worse. They complain of cold and hot flashes over their body, and of frequent and tingling sensations in their feet and legs. They become depressed and melancholic from their continued worry and watch-

ing, and in time present the picture which is described as sexual neurasthenia.

Alteration of Secretion of the Prostatic Glands.

—The secretion of the prostatic gland is a thin, milky, white liquid, which is homogeneous to the naked eye. Under the microscope it is seen to be filled with small round particles, which are lecithin corpuscles; and a few leucocytes and epithelial cells may also be present. It is of a slightly acid character and has a peculiar odor. The odor of the semen is derived from the prostatic fluid which it contains. The function of the prostatic fluid is a peculiar one. It is probable that the ability of the spermatozoa to fertilize the ovum is dependent upon some action of the prostatic gland. Furbinger of Berlin claims that the spermatozoon is secreted by the testicle in a sleeping or quiescent state, and that only after it is bathed in prostatic fluid has it motion. Others claim it has motion from the time of secretion by the testicle, and that its ability to fertilize the ovum does not depend entirely upon the movement, and they point to the experiment of Steinbach as their authority. This experiment consisted in taking female rats which had already demonstrated their ability to bear young, and coupling them with males which had had their seminal vesicles and prostates removed. Although these pairs had intercourse, and Steinbach was able to demonstrate living spermatozoa taken from the vagina of the female, not one of the females became pregnant. Later, these females were joined with normal males, and again produced their kind. These two opinions, while very different, agree that without the prostatic fluid the spermatozoon is unable to fertilize the ovum.

The alteration in the prostatic fluid which attracts the notice of the patient is a prostaticorrhea. This may accompany the act of defecation or occur at the end of micturition. The amount of fluid which passes is usually small. These patients, however, often complain of a feeling of lassitude and fatigue accompanying even slight discharges. If the fluid contained in the ducts and glands of an inflamed prostate is expressed by massage and caught on a watch glass, it will not present the milky-white homogeneous appearance of the normal secretion, but may have a yellowish tinge, and varying numbers of white or yellowish particles may be seen floating in it. Under the microscope it will be seen that the lecithin corpuscles are diminished, and the leucocytes and epithelial cells increased in numbers. This fluid will show an alkaline reaction.

This abnormal alkalinity has a deleterious effect on the spermatozoa and may even cause impotency. Blood in an amount visible to the naked eye is a rare occurrence, although red cells are occasionally seen under the microscope.

Diagnosis.—The diagnosis of chronic prostatitis is made by a digital examination of the prostate from the rectum, and by an examination of the secretion of the prostatic glands. A careful examination of the prostate should be made systematically. One lateral half should be quickly and carefully palpated; at the same time making a mental note of any change from the normal in size, shape, and consistency. Then the other half should be examined and compared with the first. The sensitiveness of the prostate must not be overlooked, for it is just as good evidence of disease to find one half more sensitive than the other, or some point of local tenderness, as it is to find variations in size, shape, or consistency. One must not forget that a chronically inflamed prostate may be of normal size and consistency, and yet present no abnormal sensitiveness, in which cases we are entirely dependent on an examination of the prostatic secretion for diagnosis.

The fluid for examination is obtained by massaging the prostate. The patient should be requested to pass his urine into two glasses, according to the Thompson two-glass test, but be asked not to empty his bladder entirely. If this second urine is clear, the prostate is massaged, and the secretion, if any appear at the meatus, caught on a slide or watch-glass. If no secretion appears at the meatus after the massage, the patient is requested to pass the urine remaining in his bladder into a third glass. This urine is centrifugalized, and is then examined for pus cells.

Should it happen that the urine in the second glass is cloudy, the patient is allowed to empty his bladder completely. The bladder is then washed out with a boric-acid solution, a small portion of the solution is allowed to remain in the bladder, the massage is carried out, and the secretion, if any, caught. If none appears the boric solution left in the bladder is passed into a third glass, sedimentized and examined.

The amount of fluid expressed by massage is usually small and bears no fixed relation to the condition of the prostate. An enlarged edematous gland may not contain as much secretion as a small shrunken one. If the fluid thus obtained shows an average of over three leucocytes to the field, when examined under a sixth-

power lens, it must be considered pathological.

An examination with a sound, bougie à boule, or endoscope is valueless. The posterior urethra is always sensitive. If we find an increased sensitiveness on the passage of the sound, we have no way of knowing whether it originates in the mucous membrane of the urethra or in the prostrate gland.

Treatment.—Treatment of chronic prostatitis is usually long drawn out and troublesome, and one that is well suited to test the patience of the physician and the endurance of the patient. As in all conditions, the first indication in the treatment is the removal of the cause. The majority of cases follow gonorrhea; likewise the larger proportion of cases are accompanied by a chronic gonorrhea. This must receive attention. If stricture, stone, or cystitis is present they must be given proper care. The treatment of these conditions can be carried on in conjunction with that of prostatitis.

Internal medication has no effect on chronic prostatitis. The condition must be met by local means. Local measures consist of the use of drugs, heat, or mechanical measures, and may be applied either through the urethra or the rectum, or both. Drugs which are applied per rectum are those which aid in the absorption of inflammatory product as KI, 5 to 10 grains; iodine, half to three-quarters of a grain; iodoform, half to one grain; ichthyol, 5 to 10 grains, and those which act as sedatives, as opium or belladonna.

These remedies are given either as suppositories or in solutions, which are injected into the rectum. Their use is indicated in those cases where tenesmus is present, or where the local tenderness in the prostate is very marked; also in those cases which respond to mechanical treatment with subacute exacerbation.

The application of heat is one of the oldest and best methods of treating local inflammation, and nowhere does it give more satisfactory results than in inflammation about the genital organs. It may be applied to the pelvis by prolonged sitz-baths; in the rectum by repeated injections of water as hot as can be borne; by means of an Arzberger apparatus, the rectofores, which consists of a hollow metal bulb which is passed into the rectum. To one end of this bulb are attached two pieces of rubber tubing. Heat is applied by allowing a stream of water of the required temperature to flow continuously through this apparatus.

A good substitute for this instrument can be

easily and quickly made by drawing an ordinary condom over the end of a return flow catheter and applying a ligature. This is passed into the rectum. Hot water enters the condom through one division of the catheter and escapes through the other. The condom is expanded by the pressure, and enough water accumulates to fill the lower part of the rectum. This device is easily made, is easily borne by the patient, and by its use a given temperature can be maintained for an indefinite period.

Heat may also be applied through the urethra by the psychofor, an instrument like a sound, but hollow and divided into two compartments by a metal strip which extends almost to its tip. The water passes in one side and around this metal division and out the other side.

Cases where heat gives the best result are those in which the prostate is extremely sensitive and in cases showing sexual disturbance.

The most effective treatment is the mechanical, that is, prostatic massage. Its effect is three-fold; first, it empties the ducts and glands of the stagnating secretion they contain; second, it increases the circulatory activity in both the blood- and lymph-streams in and around the prostate, thereby increasing the absorption of the inflammatory exudate; third, it acts as a tonic on the muscular elements of the prostate, increasing the strength of its contractions. Massage is best carried out with the patient in the knee-elbow position, but can be very satisfactorily done with the patient standing stooping, with his hands resting on his knees, the legs being straight. In this position the prostate can be pressed forcibly against the pubic arch.

The well-oiled finger is passed gently through the anus, the prostate outlined. Beginning high up at the base of the bladder, under light pressure the finger is brought down over the surface of the lobe to its apex. The finger is then carried to the outer border of the same lobe, and under the same pressure moves to the middle line. These movements are then repeated over the opposite lobe. This rubbing, alternately, one lobe and then the other, should be kept up for a period of two to five minutes. Massage should be begun very gently, and gradually increased in force as the patient becomes accustomed to it. A great amount of force should never be used. A light massage carried on over a longer time, three to five minutes, will give better therapeutic results than a heavy forcible massage carried on only two minutes, and has not the same danger of lighting up an acute or subacute ex-

acerbation. This treatment can usually be repeated on the second or third day, but should not be as long as any reaction from the previous treatment is present. If massage has been too forcible or imperfectly given and a subacute exacerbation lighted up, all mechanical treatment must stop, and the patient be put on a sedative treatment until all signs of the reaction have disappeared.

Instruments of various kinds have been used to massage the prostate. The finger, however, gives better results; for with it we can judge better the amount of pressure being used, also can detect variation in the different parts of the gland, and treatment be distributed according to our judgment in each individual case.

The urethra should be washed with an antiseptic solution after each prostate massage, to prevent its becoming infected by bacteria that may have been forced out of the prostate gland. The treatment of the urethra is that of a chronic gonorrhea, i. e., in cases where the urine is

cloudy, irrigations with large quantities (6 to 8 oz.) of dilute astringent antiseptics. In cases where urine is clear, but contains shreds, instillation of small quantities (a few drops) of concentrated astringent antiseptics. For the dilute solution nitrate of silver is most frequently used. For the instillation nitrate of silver in a strength from one-fourth of 1 per cent to 2 per cent or sulphate of copper from 5 to 20 per cent. The use of the urethral sound is of benefit in many cases, particularly in those where the patient complains that his urine is slow to start, or of dribbling at the end of urination.

The different electrical currents Faradic, Galvanic, and high frequency, applied per rectum and urethra or over the suprapubic and perineal regions, have been tried. Good results have been reported by some men. The treatment, however, has not come into general use, and, judging from this, I think it safe to say that its value is doubtful. I have no personal experience in its use.

WHAT CAN WE DO TO HELP IN THE MAKING AND ENFORCING OF SANITARY LAWS IN MINNESOTA?

EMERY H. BAYLEY, B. L., M. D.

President of the Sanitary Association

LAKE CITY, MINN.

During the last session of our State Legislature, the thirty-sixth, there were introduced twenty-four bills which referred to matters pertaining to the public health. Twenty of these were important and should have received careful consideration, but only seven were passed, and of the four less important ones three were passed. One of the bills, No. 167, relating to the sanitary supervision of the construction of water and sewerage systems, was defeated in the Senate. The bill itself was a bill for an act to require the State Board of Health to examine plans and to inspect the construction and operation of all water-works and sewerage systems, except in the three largest cities. It also provided, in case of a difference of opinion between municipalities and the State Board of Health, that two sanitary engineers be chosen, one by the State Board of Health and one by the city or town affected. In case there was still a dif-

ference a third sanitary engineer should be called, and if there was still disagreement the municipality affected could appeal to the district court of the county. The votes stood twenty-six for and thirty-two against.

In June I wrote to these thirty-two senators and asked them why they voted against this bill. About one-half of them replied, and their reasons were as follows: First, it conferred too much power on the State Board of Health; second, it did not apply to the entire state, as the larger cities were excluded,—a point which seemed to justify them in their position. Any such law should have force over the entire state, otherwise the largest sewerage systems would be exempt from state supervision. We all know that the sanitary engineers would be the most competent to judge of the construction of water supplies and sewerage systems, and their decision should be final, but the public generally refers all matters of dispute to judge and juries who are often ignorant of the subject.

*Read before the Minnesota State Sanitary Commission, at Winona, October 12, 1909.

The intent of this bill was in the right direction, because if you prevent the pollution of our water supply you do away with the chief causes of typhoid fever and other similar intestinal disorders. Had such a law been in operation, Mankato would not have been visited by the epidemic it had a year ago causing over 500 case of typhoid fever and hundreds of cases of intestinal toxemia.

An editorial from the St. Paul Medical Journal of September, 1909, on the increase of longevity, states that in the sixteenth century the average length of life in Europe was 19 years, where now it is 40 years; the length of life has been doubled in four centuries, and the most important factors which have contributed to this increase, have been improved municipal sanitation, scientific sewerage disposal, pure water supplies, regulation and inspection of food, and improved housing of the poor. So a suitable well-balanced bill similar to No. 167 should be formulated and again put before our Legislature for enactment.

A bill giving members of the State Board of Health a per diem while attending meetings should be passed. It looks unreasonable and ridiculous that the great State of Minnesota cannot afford to pay members of the State Board of Health for the time that they put in in the interest of the health of her people. In this commercial age one is compelled to be paid for his services. The sanitarian who prevents disease should receive a higher salary for time and advice than any one in any other calling.

It looks reasonable that the owners of the Minnesota dogs should contribute financially toward paying the running expenses of an institution which cares for those who acquire hydrophobia, but evidently too many lawmakers have pet dogs.

The bill giving the State Board of Minnesota money to work with was passed, but not as asked for. They asked for \$95,000 and got \$44,500—\$19,500 annual increase over the appropriation of the thirty-fifth Legislature. This is a gain in the right direction. The bill appropriating money for carrying on the educational work along the line of preventing tuberculosis was carried. Ex-President T. C. Clarke of this Association addressed us a year ago along this line, and we passed a resolution asking our legislative committee to draw up a bill, which they did, and it was passed. Mr. C. Easton asked for \$15,700 to carry on the work of the traveling Tuberculosis Exhibit. The Legislature ap-

propriated for this work \$4,500. Well, it is a start in the right direction.

Our legislators willingly enact laws that are demanded by public opinion, but hesitate to take steps that are not backed up by their local constituents. Theoretically, a legislator as soon as he is a member of the Legislature should be no longer a local man, but become a state man and enact laws for the state at large. Laws are now too often passed in this way; one legislator says, "You support my bill and I will support yours"; and thus the chain necessary for the passage of a bill is made and the necessary votes secured.

The point I want to make is this: This starting of the crusade against tuberculosis, and our legislature appropriating money for said purposes, was brought about by education—the education of the masses, as well as of our legislators. There should be a friendly feeling between any state department and the legislators. Let it be understood that the departments make only reasonable suggestions and demands. Political and personal antagonism should not exist.

Now, how can this educational work be accomplished? In the line of tuberculosis, we find the fraternal organization, The Modern Woodmen of America, printing pamphlets and sending them out to their members in a fraternal spirit and with a financial gain to both parties by preventing disease and thus increasing the length of life. We find the Provident Savings Life Insurance Society, of New York, sending out literature to their policy-holders with these aims: (a) to prevent disease; (b) to discover disease in time to check or cure it; (c) offering each policy-holder free medical examination every two years. Both companies hope by so doing to increase the longevity of the policy-holders thereby getting more premiums from the policy-holders before they have to pay their death claim. The labor organizations insist upon it that their members work only in sanitary work-shops. If such organizations find profit in doing this work, why should it not be profitable for the state to do educational work? There has been coming to my office a little pamphlet, "The Florida Health Notes," published by the Florida State Board of Health. Each month the publication is devoted largely to one subject, such as drainage, water supplies, mosquitoes, flies, glanders, etc., and they are written in a readable and comprehensive manner for any layman. I have found it especially interesting. It is sent to any address in the state for the

asking. Would not such a monthly published by our State Board do much good? Let it be sent to all boards of health, to school authorities, members of the fraternal societies, labor unions, and others. You would find in a short time the masses would be educated along these lines—lines that would improve the health of the homes, and our lawmakers would vote with a "hurrah!" for any sanitary measure that was being solicited by a labor union or fraternal organization.

J. Y. Potter, of the Florida Board of Health, says: "It is thought that the State Health Notes has a controlling influence on the public mind, and in that way brings the subject of state medicine more prominently before the citizens and their legislative representatives." At any rate, every bill the State Board of Health asked to have passed was passed by the last Florida Legislature.

Look at the rapid, systematic, and advanced work being done in Sweden by the government authorities in stamping out tuberculosis; here in our free country the individual enthusiast by everlasting persevering has first to educate the people and the people then educate the leg-

islators before any great movement can take on a legal form and become a law.

It is the duty of our Association to live, to work, and to talk along sanitary lines. We are working for the health of the children and of the men and women of Minnesota.

It is only when disease strikes home that people wake up. Somehow people object to paying for the prevention of disease. To illustrate, last winter a lady having been exposed to small-pox in her own home, grudgingly paid me a dollar for being vaccinated, which prevented her from acquiring the disease, and willingly paid me \$25 for caring for her children who had the disease.

It is as hard and discouraging for a sanitarian to preach sanitation as it is for the minister to preach religion, but what marvelous works and enormous increase in wealth are being brought about by sanitation. Take the record of the Japanese army in Manchuria and the record of our government on the Panama Canal, aye! our record everywhere, in permitting men to work and go where a few years ago they would have met with financial disaster and death.

Let the good work go on.

AN AID TO THE PROPER REPAIR OF RECENT LACERATIONS OF THE PERINEUM*

By A. W. ABBOTT, M. D.

MINNEAPOLIS

It is not necessary for the purpose of this paper to go into the history, the causes or the different anatomical forms of laceration of the perineum. We know that, in the vast majority of cases, the perineum is torn, in one direction or another and in varying degrees, at the first labor, whether instrumental or not. In subsequent labors, if former lacerations have been repaired, the same structures will ordinarily again give way. Perfect repair of the perineum depends on the exact coaptation of the torn muscles and fasciæ in their normal planes. We all know how difficult it is to replace the torn margins of these ruptures in their original anatomical relations. The laceration seldom occurs in a straight line, the muscles are not evenly retracted, and the various tissues cannot be differentiated on account of the invariable swelling, edema, and hemorrhagic infiltration. We have also to take into consideration that a

submucous tear may occur without external evidence and, moreover, that the perineal muscles may be so stretched, without laceration, that they will not regain their normal contractility.

The object of this paper is to suggest a very simple procedure that overcomes these difficulties in making a perfect coaptation. It consists simply in the introduction of an untied suture before the rupture occurs. The method, in detail, is this: Selecting a time before the forceps is applied, if the case is to be instrumental, and at the beginning of the anesthesia, in either case, a suture, at least 18 inches long, of medium-sized catgut, threaded on a good-sized, curved skin-needle, is inserted well out toward the ischium and high enough to make the knot when tied, the one which will lie just at the lower margin of the introitus. The needle is then carried through to a corresponding spot on the other side. The ends of the suture are now clamped with artery forceps, and the forceps laid on the sterile sheet

*Read before the Hennepin County Medical Society, March 7, 1910.

or towel upon the patient's abdomen. After the labor is completed and the placenta removed this suture is drawn up and used as a guide for sutures higher in the vagina, if such are needed, and then tied. This provisional suture must be inserted deep enough and in the proper plane to include a fair amount of the anterior fibres of the levator ani. This can readily be done by using a finger in the vagina as a guide. The effect of the suture is this: As it has been inserted while the muscles and fasciæ are in their normal relations, it follows that, as the rupture occurs invariably inside the line of suture, if it has been properly placed, the tissues will be again correctly placed when the suture is sufficiently tightened. If the tear is slight this guide-suture may be the only one needed.

In the first case in which this suture was used it was tied when inserted. The result was that when the perineum tore through, the suture also was broken. In the next case the suture was not tied before labor was complete, but only about twelve inches of catgut was used and the ends left loose. The result was, that as the perineal tear extended beyond the lower line of the suture, the on-coming head caught up the suture and carried it out in front of the vertex and my second attempt was a failure.

In the next case the catgut was left long and

the ends clamped separately. When the head in this case, as in the second, tore its way beyond the suture I had plenty of time to slide the part that the head was bringing with it, backward. In this case the suture fulfilled its purpose completely.

The artery forceps which holds the ends of the suture is kept out of the way and the suture itself kept clean if the forceps is laid upon the abdomen.

A considerable experience shows that this suture will do what it is intended to do, no matter what the extent or direction of the laceration may be. It is intended only as a guide-suture, somewhat like the basting thread of the seamstress.

If no rupture has occurred no harm is done. Simply remove the suture, or, if there is a probability of submucous laceration or undue stretching, leave the suture in place and tie gently, so as to avoid all chance of constriction.

Whether or not this suture has been used before, I do not know. It certainly is not generally taken advantage of, but should be, as a single trial will demonstrate.

The kind of presentation makes no difference. The suture is applicable in all cases, and if used in all primiparæ will almost entirely do away with the necessity of subsequent repair.

THE PROBLEM OF TUBERCULOSIS*

By E. L. TUOHY, M. D.

Chairman of the St. Louis County Tuberculosis Commission

DULUTH

Tuberculosis is a communicable disease characterized by an indefinite incubation period, a slow insidious onset, when established a tendency to remissions and recrudescences, and is in general curable when a defense is made against it in the early stages. Aside from certain abnormalities, as, for example, "bacilli carriers," certain infectious diseases may be said to be cured when they have run a definite course and the patient has survived. In order that a tuberculous individual may be said to be cured we may say that he must do so by dying of some other affection. It takes the average consumptive about five years to die. During a large part of that time he may be a distinct danger to those

about him. As the disease progresses there is always a decrease in his working capacity. To point out these simple facts and to bewail them is to use up time to no avail. If it were not for these very facts, tuberculosis would not be the scourge that it is today, commanding the organized efforts of practically all the civilized world against it. It is for that reason that we find in the ranks of the workers so many representatives of so many callings and beliefs.

To get lost in the labyrinth of all the side issues involved which a study of the problem presents, is only to plunge ourselves into a state of pessimism. The great number of allied workers would ask us to reform the tenements and correct our laws and our whole economic world. Undoubtedly, this should all come about, but

*Read before the Minnesota State Sanitary Commission, at Winona, October 12, 1909.

we cannot put off the solution of the tuberculosis problem until the advent of that utopia. Let it be at once said that the work that all the allied workers are doing is most essential and will be to the tremendous advantage of the commonwealth, even if the white plague is not to be considered at all. But at this time, so many men of so many minds are scanning the horizon for new ideas and looking over the enemy's forces for new points of attack, let me advance the personal belief that the solution of the problem is still a medical one. It is for us as physicians to realize the burden that is upon us, to maintain our leadership by right of ability, and to convince the public that we are still big enough for our job.

Several years ago when it began to be realized that tuberculosis is curable by means of fresh air and personal hygiene, the fact took hold of but a few enthusiasts. It seemed that all that was necessary to fight the disease, was that institutions should be provided for the cure. Out of this feeling came our institutions for incipient cases. They have done a world of good in bringing the general public up to a point to know that tuberculosis is curable when taken early, and they have been the means of a very widespread educational propaganda. With them the dominant idea has been the cure of the individual. It is becoming more and more evident that this is of prime importance to the individual, as is cure in general, but if we are to look for results from organized public efforts and to a worthy expenditure of public funds, we must look to another dominant note and that is *prevention*.

From the work done by Newsholme and others the popular belief of sanitarians has become crystalized into the dictum that we must care for the cases in institutions who are the greatest sources of the tubercle germs: those who by their environment are most apt to communicate their affliction to others. And at once it is evident that institutions for the advanced cases are the first necessity. But before going further let me, for the sake of brevity, call your attention to certain salient features of the problem, doing so in numerical order.

1. About 10 per cent of all deaths are due to tuberculosis. Somewhat over 2,000 persons die annually in Minnesota. I shall apply the figures to our own county, and let me ask you to do the same for your own counties. 170 persons died in St. Louis County in 1907.

2. Counting that the average consumptive

lives five years after he gets the disease, this means a tuberculous population in the state of about 10,000 and in our county of at least 700.

3. Without going into too much argument, it is probable that Marshall Price, of the Maryland State Board of Health, is about right when he says that not more than 10 per cent of all tuberculosis patients can be induced to leave their homes, either for treatment or isolation. That means, then, that any plan of prevention or cure that has not fully in mind the other 90 per cent is by no means complete.

4. Were the advanced cases to be taken into institutions and then after becoming resigned to their fate under skilful nursing and good food, they should pass to their reward, the problem would be simplified. But they do not: the better treatment they get the longer they live, and no man would want it otherwise. Furthermore, they get better and they want to return to their friends, and they have to make a living. As Biggs of New York says, "all we can do is to take them in until they become arrested cases, until they become a less menace to the public than some one else who is abroad, and we have to let them exchange places." In other words as institutional care is conducted at present writing, the progress of the disease is the same as ever; as I said in the beginning, "a series of remissions and recrudescences."

5. The public are still in the stage where they think that cure of the disease is paramount. In order to get money for any of the public movements instituted, that has had to be a great means of stirring up interest. We have gone a little too far and have promised too much, and it is painfully apparent that we cannot make good. In reality, few people can be absolutely cured of the disease, not so much because it affords such difficulties, but because "we can cope with the disease better than we can with the patient."

6. According to the Maryland Commission 90 per cent of all tuberculosis is acquired in the home. Take this in connection with the fact that all children are susceptible to the disease, and you have a combination that puts all the advantage on the side of the germ. Add to this the fact that tuberculosis has the greatest powers of latency and you have the explanation of many of the phenomena that have been ascribed to heredity and to "a run-down condition," "caught it from a cold," and all the rest. It means a condition acquired in childhood, maintained by poor environment, and fanned into life

by one or more of the many exigencies of the modern social struggle.

"Individual resistance," "the simple life," etc., are factors in the problem, but they will not prevent the spread of tuberculosis. It is specific, and not general, immunity that counts in the prevention of disease. Pneumonia, typhoid, and other communicable diseases do not spare the strong.

This in the main gives us an idea of the breadth of view we must take in planning a state-wide campaign, for nothing short of it will be effective. It is my pleasure to just return from a visit to many of the institutions of the Eastern states and some in Illinois. It is also my pleasure to be a member of the Tuberculosis Commission for St. Louis County. We are the first county in the state to have taken up the matter of a County Institution under the provisions of the enabling act of the last legislature. I may be pardoned, then, for giving what I consider a working basis for our county, and it is possible that it may be of service for other counties which should take up this work. We are extremely fortunate in having but a small percentage of the absolutely dependent population to care for that they have in the older settled states, such as New York, Pennsylvania, and Massachusetts. Our problem from this side is simple compared with theirs. In the rush of the West there is no place for the "tags of humanity" as yet, and if all the facts were known it would be found that they drift East. The people, then, whom we shall have to consider are the self-respecting householders who will have resources in proportion to the length of time they have been sick, and the amount of resources they had accumulated before they got sick.

We must never consider this great mass of our people paupers solely because they happen to be sick with consumption and out of money. They are as different from the true pauper as day is from night. And, once for all, we should resolve to make the movement in our state for county institutions anything but an almshouse affair. In our county we are building as an adjunct to the county Poor House a shack to accommodate such people as would normally fall under the care of the Poor Board. That is all they should take. The institution we shall build will be quite a different place and widely separated from it.

We shall build the institution around the home as it were; having constantly in mind the fact that, after all, the home is going to be the place where most of the battle is to be fought. It

must be ready to take cases in any and all stages of the disease, which really, after all, are but two, those who are incipients and those who are not. A substantial administration building should be secured first, to carry the dining-room, kitchen, etc. In addition to this, an infirmary must be provided to care for the sicker patients and to serve as a reception-room for all who come for an initial inspection. About this can easily be grouped the inexpensive cottages or shacks for the patients who are in a position to seek an arrest.

In our district we should use the institution ultimately as a center for an organized effort in the county. We hope to have it central enough so that the people may all feel able to use it as a tuberculosis dispensary, where they may go and be under observation several days or a week for diagnosis.

Our system of visiting nursing in the larger centers must be made more effective by a broader correlation with a corps of visiting county nurses. Thus cases may be taken into the institution to give temporary relief to the home, or *vice versa*. When the patient leaves the institution he must be made to feel that he is still under observation; and here is where the tremendous advantage of the local institution, as contrasted with the larger State Institution, comes in. Every time a case of tuberculosis is found in a home, that individual should be considered a center of infection, and a still-hunt be instituted through the nurses for other cases. Soon we find that school and factory inspection becomes a necessity and nurses to again visit the homes becomes the only logical method of attack. It is only by this harmonious action and widespread interest that our institutions can be made as effective as they need to be, in order to justify the expenditure of great sums of public money.

There is nothing incompatible in the cure of tuberculosis and certain work, but rest is necessary to curb the disease. The period of rest should be from three months to a year, and the patient should go home only when surely cured. A farm colony should then be planned, according to the excellent scheme followed out in Eudowood near Baltimore, Maryland.

When we see the difficulties under which an ordinary "arrested case" labors when he attempts to again enter the economic world as a wage-earner, we easily see why most of the physicians who devote their time to the work in the institutions, remain in the work. Many of them have found by sad experience that the lauded

"cure" was, after all, only an "arrest," and that the place for them to keep their health was near the Institution. If that is true of the physicians, how much more so is it true of the poor clerk or waiter. The natural outgrowth, then, will be a gradually accumulating colony of arrested cases, who should be encouraged to colonize indefinitely. They can certainly make a good living, if not at truck farming at something else. They will be gradually realizing that they are remaining "arrested," and finally "cured." They will not have to be again and again rescued and brought back to the institution at great public expense; in succumbing they will not be dragging others down with them. This is an especial appeal for a good tract of land about every institution.

Dr. H. D. Pease has well put it when he says that the problem which we are discussing is really a vicious circle. We should attack it at its most vulnerable point, which is manifestly the care of the late cases. But we ought to delve in elsewhere, wherever we can. Now our mission as physicians is to cure as well as to prevent disease. Is it not plain that unless we find the consumptive early we cannot cure him? It is also true that a good many physicians are not going to do much in a public way for prevention. It follows, then, that if we make little effort to find the disease in its curable stage, and we are not thrown into positions where we can do much in a broad public way, we are going to do practically nothing.

Then, surely, the criticism will be justified that the problem is too big for us. We should not expect the grocer's boy or the minister to make our diagnosis for us. It is absurd to say that physicians do not get a chance to make early diagnosis. The time is coming at least when they will have abundant opportunity, for people are not going to wait on dangerous symptoms. Are we to continue to merit the accusation of Biggs that only one physician in ten is capable of being *taught* how to properly interpret the findings in a chest?

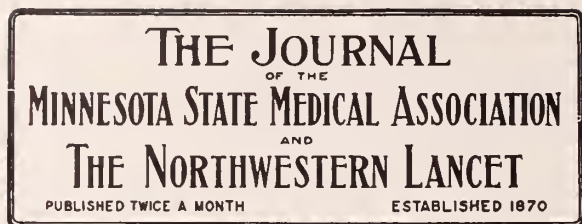
We want a keener, more active interest from the average physician. He has the power to change the present state of affairs, and make good our claim that tuberculosis is curable; to check the perennial crop of early cases that are becoming advanced.

There will be a great change when something like the diagnostic acumen, evidenced in the study of appendicitis, is directed toward tuber-

culosis. Sometimes it seems the only great difference between the two is one hundred dollars.

For Minnesota we need—

1. A continuance of the effective campaign of education already doing such good work. The education as carried out by the State Board of Health and the organization in the hands of the State Association should be the first step.
2. The local association should then take up the work as the especial locality presents it.
 - (a) A system of visiting nurses is imperative.
 - (b) Medical inspection in the schools, which should ultimately be supplemented by school nursing. (In smaller places the same nurse should do for both.)
 - (c) Should co-operate also with all other charitable or quasi-charitable bodies in the community.
3. The larger counties or groups of the smaller counties should then avail themselves of the opportunity of appointing tuberculosis commissions; this commission in turn should have the discretion to equip and maintain such an institution as is needed. Where dispensaries are not already maintained this can at once become one, and act as a center for an aggressive campaign for securing notification of all cases with registration, and disposing of them in the best possible way. The nursing feature should then be broadened to one of general inspection. The cases once having had institution care should be out on probation, with visits *at intervals from the nurses*. And where they find that the home treatment cannot be continued without endangering others, the institutional care *should be enforced*.
4. There should be considered the hope that ultimately such arrested cases that cannot well take up the burden of ordinary life should be encouraged to remain in a colony. A fair amount of land should be secured early, and truck-farming be instituted.
5. Plan well and clearly; haste has no place either in the individual or community cure of tuberculosis.



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THE CARNEGIE FOUNDATION

We are confident that no apology need be offered for the space given to the editorial which follows this explanatory note, for we cannot imagine a physician in practice in any part of the Northwest who will not rejoice in the evidence, contained in the quotations within the editorial, of the present high standing of the Medical Department of the University of Minnesota, and also in the evidence, contained in that standing, that a great career, already entered upon, awaits both the Medical School and the University Hospital.

At the risk of stating what all our readers may already know, we want to say a few words about The Carnegie Foundation.

In 1905 Mr. Andrew Carnegie established The Carnegie Foundation and set aside a fund of \$10,000,000 to provide retiring allowances and pensions for teachers in colleges and universities. At first, state universities were excluded, but, later, they were included, and a further sum of \$5,000,000 was added to the fund. It is now understood that this vast sum of fifteen million dollars may be doubled or even quadrupled by Mr. Carnegie for the advancement of teaching in all its branches.

Naturally, the first question that presented itself to the officials of The Foundation was, What institutions are worthy of encouragement of this character, or, in other words, worthy of perpetuation? Manifestly, the question could be answered only by obtaining first-hand information collected by experts. As many universities include colleges of

medicine, law, etc., and as it has long been notorious that such colleges or departments, as well as many independent and private schools of like character, especially in medicine, are doing inefficient work with untold evil results, the investigation of The Foundation began with the medical schools. After a personal visit to every such school in the United States and Canada by a trained observer, the present Report of 350 large pages has been issued, and 50,000 copies of it will be distributed, and it will no doubt reach all parts of the world and be read by the leading educators and statesmen of every civilized nation.

Our review of this Report follows.

THE REPORT TO THE CARNEGIE FOUNDATION ON MEDICAL EDUCATION IN THE UNITED STATES AND CANADA

To give great sums of money year after year, and always wisely, may appear simple to the unthinking, but is, in truth, one of the most difficult of human undertakings. The difficulties are enormously increased when the mind of the giver is of a Napoleonic type. To relieve the suffering of the individual or the group is a simple matter; to uplift a whole nation, or the entire council of nations, is a task such as the greatest men of history have never knowingly and intelligently accomplished.

Andrew Carnegie both plans and gives on a gigantic scale, and he has never made a gift so admirably uniting the broadest humanitarianism and the purest philanthropy as when he placed millions of dollars in the hands of expert agents for the advancement of teaching through the Carnegie Foundation. A gift which primarily aimed to provide for retired professors, is now seen to have become a means of elevating the standard of academic and professional training throughout the entire continent. If any have wondered why of so many institutions called, so few have been chosen and pronounced worthy, their wonder will cease when they read the epoch-making report of Abraham Flexner on "Medical Education in the United States and Canada."

The fortunate reader finds that in the introduction, by Henry S. Pritchett, and in the body of the report, by Abraham Flexner, both laymen but skilled educationists, he has for the first time a complete picture of the status of medical instruction throughout the United States and Canada drawn by the hands of masters. It is evident that the purpose of the men conducting and directing this investigation has been throughout distinctly constructive, though it is equally man-

ifest that much tearing down must accompany the reconstruction.

The report assumes as self-evident an overproduction of doctors on this continent, especially south of the Canadian border, and assigns three causes, namely, a surplus of schools, inadequate requirements for entrance and graduation, and the general inefficiency of state licensing boards.

The United States and Canada, in little more than a century, have produced four hundred and fifty-seven medical schools, of which one hundred and fifty-five are still living. "Illinois, prolific mother of thirty-nine medical colleges, still harbors in the city of Chicago fourteen; forty-two sprang from the fertile soil of Missouri, twelve of them still 'going' concerns; Indiana twenty-seven, with two survivors; Tennessee eighteen, with nine survivors." Cincinnati alone brought forth twenty schools; the city of Louisville eleven. Most of these represented neither local nor general needs; many were merely private undertakings, thoroughly commercial in spirit and conduct. For such schools professorships were matters of sale and purchase, their value resting in the title and in the cases referred by loyal alumni. Originally the course in such institutions was wholly didactic, laboratories were unknown, and hence slight expense of maintenance made students' fees alone suffice to run them and pay a respectable dividend. The lower the standard the larger the student body, the greater the emolument of teachers, and the greater the degeneration of all concerned.

This abominable condition continued until the 80's, and, as the report reads, "it is as easy to establish a medical school as a business college," even at this time, though the incentive to do so has largely been removed by an imperative demand for expensive laboratory instruction. No properly conducted medical school can now be operated on the fees paid by students; on the contrary, the sums thus received can represent but a small part of the necessary income.

Flexner finds everywhere proprietary schools seeking an organic connection with the university, or, failing to obtain that, closing their doors. Certain proprietary schools masquerading under university affiliations are in the same unhappy situation.

Our own State Board of Medical Examiners is lauded to the skies because it will henceforth demand that all seeking to practice within the

borders of Minnesota shall have received "the same preliminary and professional education demanded of her own sons."

Credit is also given to the few first-class schools which have steadfastly fought for higher educational ideals, and throughout the report Minnesota is placed in the front rank and used in many instances as an example of achievement along these lines. Short work is made of the claim that low requirements must be maintained, in order that small towns may not lack physicians, the report showing that, however high the standard of the school, its graduates reach the smaller communities as well as the larger towns and cities. Mr. Flexner admits that it may be necessary for a time to permit certain southern cities to maintain medical schools upon a somewhat lower basis than would properly be required north of Mason and Dixon's line, where the general educational conditions are better, but he insists that they attain at least a *respectable minimum* of requirements.

It is shown that one thousand or fifteen hundred graduates per year would satisfy the needs of the entire continent, and that we are actually producing three thousand and ninety-seven per annum. The report states that "the country needs fewer and better doctors" and that "the way to get them better is to produce fewer."

We learn with amazement that in some of the "going" institutions of the commercial type advertising costs more than the laboratories, and that the school catalogues "exaggerate, mis-state, and tell half-truths"—all to attract the "crude boy or jaded clerk," who goes into medicine without forethought and without proper preparation.

Dealing with the actual basis of medical education Flexner divides schools into three classes: those of the first, requiring two or more years of college work for entrance; the second, only a four-year high-school course or its dubious "equivalent;" the third, asking only little more than the rudiments or the "recollection of a common school education."

In the first division we find the Universities of Minnesota, Johns Hopkins, Harvard, Western Reserve, Chicago, Cornell, Stanford, Yale, California, Michigan (exclusive of the homeopathic department, which most improperly and unjustly is maintained upon a high-school basis), Kansas, Nebraska, and the half-schools (schools giving only the first two years of medical instruction, and not issuing diplomas), Wake

Forest, (N. C.), North Dakota, Wisconsin, and South Dakota.

According to the report Kansas and Nebraska University medical schools are not yet so organized in other respects as to fall properly in the first class. Six schools in the second class are to reach the higher requirements in the fall of 1910, but Flexner despairs of properly classifying the schools of this division. These "too freely admit students on bases that are not only hopelessly unequal to each other, but are even incapable of reduction to a common denominator."

In discussing this group Flexner justly attacks the lax standards and halting methods of most of the State Boards, holding up the Minnesota and Michigan Boards as examples of those which maintain a scholastically honest requirement. Referring to Illinois, he says the law speaks of "preliminary" educational requirements, the State Board graciously permits them to become "subsequents."

He also criticizes the crude and superficial character of the State Board examinations as ordinarily held, which may permit the man thoroughly drilled on a quiz-compend basis to pass as well as the thoroughly trained, well-grounded graduate of a high-grade school.

A strong point is made of the reduced mortality (failure to continue the work) in the professional years experienced in schools having a high standard of preliminary requirements, and it is well that attention is thus called to the cruelty of the laxer system, which involves disappointment, wrecked hopes, and pecuniary loss for the large number of students so thoroughly unfit as to be unable to pass even the farcical examinations of the low-grade school or of the weakened State Board.

The plea that low-grade schools operate to the advantage of the "poor boy" is annihilated. Flexner maintains that such schools are not cheap, and asserts that in some of the low-standard Baltimore, Philadelphia, and Chicago schools the amount paid by a student in board and tuition fees for his four years will nearly carry him for the entire six years' course at the University of Minnesota. He insists that low entrance requirements flourish for the benefit of the poor school, not for the poor boy.

The addition of a hospital year in the medical course is recommended, but he protests against the plan of certain Philadelphia schools whose managers desire to establish a five-year course,

the first year of which shall deal with the *pre-medical* sciences.

Medical schools of the third class are shown to be, for the most part, institutions which should be dissolved into thin air.

The report concludes this phase of its discussion by the following statement: "The University of Minnesota, having by statesmanlike action got rid of all the medical schools in the state, is thus backed up by the legislature and the State Board. North Dakota and Indiana have taken the same stand; Michigan and Iowa will probably soon follow. 'The adjustment is perhaps difficult, but not too difficult for American strength'."

That portion of the report dealing with the course of study is profoundly interesting and instructive. After briefly referring to the eras of dogma and empiricism and pointing out the meager body of facts underlying them, he clearly shows the evils of preconception and acceptance of preternatural explanatory principles and metaphysical assumptions. Realizing the lack of fundamental knowledge and necessary technic, the almost entire absence of rational experimentation, and the partizanship and bigotry of both periods, one can readily deduce the ridiculous teaching methods which prevailed during that dark era.

The third period—that of scientific medicine—is shown to represent the growth of a genuine science, based upon the careful collection of facts, their grouping, rational interpretation, and critical examination.

The demand for a thorough understanding of body structure and function necessarily leads to an equally critical and thoroughly controlled system of experimentation, and thus to the application of the same methods to the study of the origin, results, and treatment of disease. "Gratuitous speculation is at once thrust unceremoniously into the background, and scientific scepticism enters and controls." "The empiric and the scientist both theorize but logically to very different ends." "Scientific medicine has its eyes open, takes its risks consciously, does not cure defects of knowledge by partizan heat, is free of dogmatism and open-armed to demonstration from whatever quarter."

The enormous influence of the modern spirit upon medical education is thoroughly worked out; and the relationship of the student to the school, his teachers, and the clinic, is admirably treated. The report emphasizes the value of

teachers working along research lines, only to insist upon the almost equally great value of those non-investigators who are assimilative, learned, receptive, critical, and responsive. Such men may help to preserve the balance and make the necessary contacts and connections, but for the scientifically dead practitioner who has ceased to learn there is no room in modern scientific educational life.

A plea is made for less of lecture work and text-book instruction and a more definite and general application of that cardinal principle which demands that the student himself shall be taught actually to *do* those things with which his instruction deals.

The development of this question naturally leads to a discussion of the facilities offered by the laboratories and hospitals with particular relation to their equipment and effectiveness and throughout the entire report it is made evident that no hospital can be considered modern, up-to-date, or effective, if not thoroughly equipped for teaching.

It appears that certain schools advertise clinical facilities which do not really exist because of the lack of any organic connection between the schools and the hospitals,—the lack, indeed, oftentimes even of proper and necessary affiliations.

Up to last year in no part of the country could this criticism fall more severely than upon our own University or, rather, upon the municipal institutions of the Twin Cities; and even now the relationship existing between these hospitals and the medical school of the University is not ideal. The hospitals are not getting as much as they should from the school, the school is still getting less than it should from the hospitals.

Neither of these great institutions has as yet been modernized by the establishment of such adequate laboratories, properly housed and effectively manned from university sources, as are now held to be absolutely necessary in any up-to-date institution.

Flexner feels that the difficulties attending the establishment and continuous maintenance of proper relationships in this connection are so great as to make it absolutely necessary that every medical school should, in addition, build and maintain its own teaching hospital. Had the University Hospital not already been started at the time of his visit to the University of Minnesota, and had he not approved of its organization and accepted as certain its continuous develop-

ment, our medical school would have received but a part of the praise so generously given.

He insists that "the backbone of the structure is the clinic in internal medicine," saying that in most institutions instruction in surgery and the specialties predominates to the disadvantage of the student, who, in the case of major operations, can ordinarily not even be properly called an eye witness to the actual work. The general weakness of medical schools in relation to instruction in obstetrics is emphasized, and the figures adduced to prove the paucity of material in the average school are appalling.

He asserts that the teaching dispensary must follow the same line in organization, control, and method as is found necessary in the hospital; and throughout his report, in dealing with individual schools, one is impressed by their loose methods in dispensary work and in the resulting inefficiency of what should be invaluable clinical exercises.

Referring to the relation of the student himself to the hospital he says "the student can never be part of the organization in a hospital in which he is present on sufferance."

"Centralized administration of wards, dispensaries, and laboratories, as organically one, requires that the school relationship be continuous and unhampered."

He insists that the patient's welfare, "ever the first consideration," is promoted, not prejudiced, by medical teaching, as the man who prescribes for and examines patients under the critical eyes of students, internes, and hospital associates, is constantly on his mettle, and the slovenly work so generally seen in non-teaching hospitals, and indeed in private practice, cannot appear.

In respect to hospital organization he recommends a plan which is, in all essential particulars, that adopted by the University of Minnesota for its own hospital, and he outlines the same relationships as obtain here between the various clinicians and the laboratory men.

As regards the size of the teaching hospital in direct connection with the medical school, he believes that less than four or five hundred beds will not supply the number of patients requisite for teaching, and insists that proper distribution of material is absolutely necessary to the end that medical cases shall largely predominate and obstetrics be made an important feature.

Our University Hospital properly enlarged will not only meet the requirements of The

Foundation but will prove one of the greatest assets of the State in its relation to the relief of the sick poor, as a center of scientific work, and as an indispensable factor in the post-graduate teaching so urgently demanded by the medical practitioners of the Northwest.

The investigator expresses himself as, on the whole, satisfied with the indications of progress in the teaching, proper housing and equipment of laboratory branches, and believes that Americans are successfully training a large body of excellent laboratory men. On the other hand he finds much to disappoint him on the clinical side, both in relation to the character of the clinicians and yet more the unhappy conditions under which they are obliged to work in nearly every institution in the country, and says that "a university president will hear with astonishment * * * * * that facilities made up of insecure and disconnected privileges, scattered here and there through the hospitals, public and private, of the community, now large, now small, do not satisfy the fundamental requisites of clinical discipline supervening upon modern laboratory work, or that a surgical clinic is no substitute for a clinic in internal medicine."

In concluding this phase of the discussion and insisting that the backbone of clinical instruction must be a hospital absolutely controlled and best developed on its medical side, he suggests various means by which existing relations of the looser sort in various localities might be converted into organic bonds.

The ridiculous situation at the Cook County Hospital (in Chicago) where appointments are made on the basis of competitive examinations held every six years, and where consequently there is no assurance of permanency of tenure or definite division of material, for any school, is sharply criticised; and the general hospital situation there, the number of hopelessly low-grade institutions sheltered by Chicago, and the evident cowardice or inefficiency of the Illinois State Board doubtless led to the drastic statement that "the city of Chicago is, in respect to medical education, the plague spot of the country."

He further insists that in most teaching centers the question is not who can best teach a given subject, but who holds the necessary hospital appointment and will give his service for nothing or next to nothing.

Flexner refers to the curious antipathy to medical teaching displayed by many unprogressive hospital boards, and even by superinten-

dents of hospitals, rightly describing institutions which bar out students from their free wards as "mere boarding-houses for the sick," and justly saying that in these the visiting staff of physicians is too often appointed through favor, pull, or bargaining, and not on the basis of unusual professional skill or attainment. Not a city in the country can escape this criticism, and we know too well how often ignorance, prejudice, trivial disagreements, and ward politics have crippled the teaching power of schools and done untold damage to the sick in the hospitals, the cause of medical education, and to the general public, always in the end the greatest sufferer.

The report points out that in some of the largest and best schools of the country, including the University of Minnesota, students have no proper relation with the laboratories of the clinical hospitals unless, as in the case of our institution, a university hospital has been established.

The most astonishing statement contained in the report relates to the fact that some of the so-called medical schools have no hospital connection whatsoever. Several such are named, and many more have access to so few beds as to be practically without the facilities for clinical teaching. In this connection, as showing the lengths to which certain institutions will go in their advertising, one of the schools of a great city is said to claim "the freedom of every important surgical clinic in the great medical colleges and hospitals" of that city. Flexner says that in fact its students can gain access only by concealing their identity, for "of rights or privileges they have none."

The matter of sectarianism in medicine is handled without gloves, but in an especially clear, just, and effective manner. This will be best illustrated by a few quotations:

"Prior to the placing of medicine on a scientific basis sectarianism was of course inevitable. Everyone started with some sort of preconceived notion; and from a logical point of view, one preconception is as good as another. Allopathy was just as sectarian as homeopathy."

"Scientific medicine distrusts general propositions, *a priori* explanations, and comforting generalizations."

"It needs theories only as convenient summaries in which a number of ascertained facts may be used tentatively to define a course of action."

"It has learned from the previous history of human thought that men possessed of vague preconceived ideas are strongly disposed to force facts to fit, defend, or explain them. This tendency both interferes with the free search for truth and limits the good which can be extracted from such truth as is in its despite attained."

"Modern medicine has therefore as little sympathy for allopathy as for homeopathy."

"It simply denies outright the relevancy or value of either doctrine. It wants not dogma, but facts. It countenances no presupposition that is not common to it with all the natural sciences, with all logical thinking."

"Scientific medicine therefore brushes aside all historic dogma. It gets down to details immediately. No man is asked in whose name he comes—whether that of Hahnemann, Rush, or of some more recent prophet. But all are required to undergo vigorous cross-examination. Whatsoever makes good is accepted, becomes in so far part, and an organic part, of the permanent structure."

"There is no need, just as there is no logical justification, for the invocation of names or creeds, for the segregation from the larger body of established truth of any particular set of truths or supposed truths as especially precious."

"The tendency to build a system out of a few partially apprehended facts, deductive inference filling in the rest, has not indeed been limited to medicine, but it has nowhere else had more calamitous consequences."

"The logical position of medical sectarians today is self-contradictory. They teach pathology, bacteriology, clinical microscopy. They are thereby committed to the scientific method; for they aim to train the student to ascertain and interpret facts in the accepted scientific manner. He may even learn his sciences in the same laboratory as the non-sectarian. But scientific method cannot be limited to the first half of medical education."

"The sectarian therefore in effect contradicts himself when, having pursued, or having agreed to pursue, the normal scientific curriculum with his student for two years, he at the beginning of the third year produces a novel principle and requires that thenceforth the student effect a compromise between science and revelation."

This is the best statement ever written of the attitude of the modern physician, who can no more accept the title of *allopath* conferred by the sectarians than he can that of *homeopath*, or *osteopath*.

The possibility of medical dogma once granted, the number of resulting sects must be unlimited. Flexner recognizes therefore only the homeopaths, the eclectics, the physiomedicals, and the osteopaths, finding that the chiropractics and others of the same ilk are not medical sectarians, though they would fain be so received, but merely "unconscionable quacks whose printed advertisements are tissues of exaggeration, pretense, and misrepresentation." He scorns to deal with them and would leave the proper action to the public prosecutor and the grand jury.

Referring to the admitted sectarians he insists that a student of homeopathy or osteopathy needs to be as intelligent and mature as a student of scientific medicine, and denies that any just reason exists for interposing sectarian principles at the beginning of the clinical years.

A study of the report shows conclusively that

the existing osteopathic schools are unworthy of the name of medical schools, because, for the most part, they are "frankly commercial" in character and almost wholly lacking in the organization and machinery necessary to modern instruction in medicine. The description given of these schools, which rests upon the same basis as obtained throughout, namely, personal visitation and inspection, would seem to justify one in placing this cult in the same category with those to whom Flexner has refused recognition as true sectarians.

With reference to homeopathic schools, he finds none with high entrance requirements and states that nowhere, with the exception of one or two departments at Boston University, was there any evidence of progressive scientific work or even "drug-proving."

In two instances, namely at Iowa and Michigan, he found that homeopathic departments are maintained and permitted to enter their students on a much lower basis of preliminary requirements than is demanded by the scientific school in the same institution, an intolerable and wholly unjust condition, which, as our readers may remember, prevailed also at the University of Minnesota until a short time ago.

He finds that but three of the independent homeopathic schools possess the equipment necessary for any sort of effective teaching in the fundamental branches. Of the remaining schools of this sort he pronounces several weak and uneven, and the remainder utterly hopeless.

He then states the well-known fact that in the year 1900 there were twenty-two homeopathic colleges in the United States, today reduced to fifteen, and, further, that the total homeopathic student enrollment has within the same period decreased from nineteen hundred and nine to one thousand and nine, showing a loss of nearly fifty per cent, while the graduating classes have dropped from four hundred and thirteen to two hundred and forty-six, this despite the fact that the standard of entrance requirements in these schools has not been materially raised. From this he infers that their disease is incurable, and their dissolution inevitable.

As regards the immediate future he says: "Homeopathy has two options—one to withdraw into the isolation in which alone any peculiar tenet can maintain itself; the other is to put that tenet into the melting-pot."

"Everything of proved value in homeopathy belongs of right to scientific medicine and is at this moment incorporate in it."

As to the eight eclectic schools: The report states that none has anything remotely resembling the laboratory equipment which its catalogue claims, nor has one of them decent clinical opportunities. All are most severely dealt with in the detailed report of individual schools.

In closing, Flexner pays especial attention once more to the eight osteopathic schools. "Their catalogues are a mass of hysterical exaggeration, alike of the earning and curative power of osteopathy. It is impossible to say on which score the 'science' appeals to the crude boy or disappointed men and women it exploits."

He asserts that the osteopath needs to be trained to recognize disease and to differentiate one disease from another quite as carefully as any other medical practitioner. "Whether they use drugs or do not use them, whether some use them and others do not use them, does not affect this fundamental question." He insists that they do not properly teach even anatomy, the foundation of their cult, nor have they even the facilities or material for such teaching. Their clinical services he pronounces ridiculously inadequate. A certain Philadelphia school advertising its "opportunities for practical work" has an infirmary with three beds; students of another institution of the same sort must take a journey of an hour or more to reach only a pay institution of from ten to fifteen rooms. Kirksville, teaching five hundred and sixty students, has only twenty ward beds, nearly all surgical.

It appears that the eight osteopathic schools now enroll over eight hundred students, who pay about *two hundred thousand dollars per annum in fees*. It is said that the instruction furnished is inefficient and worthless, and the fees find their way into the pockets of the owners or into school buildings and infirmaries that are equally their property.

The report insists that the law require "that all *practitioners of the healing art* comply with a rigorously enforced preliminary educational standard, that every school possess the requisite facilities, that every physician demonstrate a practical knowledge of the body and its affections.

To these terms he says no reasonable person can object. The good sense of society can enforce them upon reasonable and unreasonable alike."

Under a very full and adequate discussion of the functions, duties, and unfortunate failings of state boards of examiners, the report pays again a great compliment to Minnesota whose Board is pronounced "vigorous, intelligent, and public-

spirited." In this connection, however, he says, "Minnesota, for example, obtained an excellent law, consolidated the medical schools of the state, established a high standard, and quarantined against invasion by a low-grade product from without," "then having fairly secured for the state the best obtainable conditions in the matter of protecting the public health they proceeded partly to undo the good work by establishing a separate osteopathic board with power to license osteopaths, who will treat all diseases and quite possibly in all sorts of ways."

We find from the report upon individual institutions one of the most interesting and important features of Flexner's contribution is his reference to the financial aspects of medical education. He says it is universally conceded that modern medical education cannot be conducted on proper lines at a profit, that our best medical schools are far from self-supporting, and that they absorb the income from large endowments and must seriously burden the general resources of their respective universities.

Of schools which are run on the basis of the fees received he says: "In these schools a balance to the good is obtained for distribution by slighting general equipment, by overworking laboratory teachers, by wholly omitting several branches, by leaving certain departments relatively undeveloped or by resisting any decided elevation of standards." It appears that school after school follows the discreditable plan of crippling its instruction for the sake of obtaining from its revenues money to be distributed amongst its professors. Such schools lack any proper endowment or access to state funds.

Flexner would place the *minimum* cost of maintenance in a four-year school at from one hundred to one hundred and fifty thousand dollars per annum, assuming that about two hundred and fifty students were registered, and, *this quite apart from the expense of maintenance of its necessary hospital and dispensaries*.

This statement assumes an extraordinary importance to us in Minnesota at the present time because, logically, properly, and most fortunately, the burden of educating physicians in this state has fallen wholly upon the University of Minnesota, which, in order to hold its present place in the front rank of American medical teaching centers, *must continuously expand*, both in buildings and in teaching force, and greatly increase its demands for maintenance and for building appropriations.

The situation permits no alternative, but rep-

resents an absolute and immediate necessity. Any other course of action means almost immediate loss of prestige because of the enormous advance already evident in our best institutions, which will be still further stimulated by Flexner's remarkable critical report.

This exact need has in fact been met in St. Louis by the raising of five million dollars, with which to complete, on modern lines, their college and hospital plant. The Medical Department of the University of Minnesota, in spite of the generosity of the State and the wise and liberal action of its Board of Regents, has forced its way to the front under circumstances of the utmost difficulty. That it has done most effective teaching and has been a reasonably productive school, is due to the self-sacrifice and the dominating scientific spirit of an entirely inadequate corps of teachers, illy paid. It must be much more productive in the future if it is to march side by side with those schools in whose immediate association it belongs.

Minnesota's scientific competition, as is clearly shown by the Flexner report, is not with the low-grade schools but with Johns Hopkins, Harvard, and others of that type, the latter spending two hundred and fifty-one thousand three hundred and eighty-nine dollars per year without contributing to the support of any hospital or dispensary, as against eighty thousand seven hundred one dollars and forty-six cents spent by Minnesota.

All who are interested in the teaching of medicine in Minnesota,—and this includes not only the teaching men, not alone the physicians of the State, but every man and woman in it,—must assist in some way to meet a situation which is, to say the least, acute.

BOOK NOTICES

THE PREVENTION AND TREATMENT OF ABORTION.

By Frederick J. Taussig, A. B., M. D. Published by C. V. Mosby Company, St. Louis, 1910.

This appropriately illustrated book of somewhat less than 200 pages is well worth careful reading. It is especially valuable as a guide for the general practitioner who cannot go far amiss if the advice given is carefully followed.

The author, after a consideration of the frequency of both criminal and spontaneous abortion and the general causes, gives a concise and clear description of the anatomy of early preg-

nancy. He lays a good foundation in the discussion of the pathology of abortion and in a fairly detailed account of the etiological factors, for the subsequent very practical part of his work. The symptoms, diagnosis, and prognosis of this condition are well presented. A number of interesting facts are brought out in the discussion of the prophylaxis of both spontaneous and criminal abortions. The consideration given the treatment of this condition is very complete and the author is well balanced in the advice given. The indications for the different procedures are given and the various methods of securing a clean uterine cavity are well presented.

The prevention and management of the complications are separately and carefully described. This constitutes a valuable feature of the work, and the chapter on "Sepsis and Perforation" is of considerable practical value.

In several appendices the topics of missed abortion, mole, therapeutic abortion, and ergot, with some of its preparations, are taken up as subjects which cannot be easily separated from the general subject of the work.

It is a very good book for any one to follow as a guide in the treatment of this class of cases.

PROTOZOÖLOGY. By Gary N. Calkins, Ph. D., Professor of Protozoölogy in Columbia University, New York. Cloth, pp., 341, with 129 illustrations, four colored. Price, \$3.25 net. Philadelphia: Lea and Febiger, 1909.

This book is, as far as we know, the only book devoted entirely to protozoölogy. The author has approached the subject from a biologic standpoint, and the first half of the book is devoted to the classification and the general morphology, physiology, and reproduction of protozoa. The latter half of the book is taken up with pathogenic forms.

The work is of special interest to physicians, in that it discusses from a biologic standpoint the cancer problem in its relation to protozoa, and a perusal of the liberal views from such an authoritative source is well worth the time of any physician. The other protozoa that are of especial interest to doctors are the group of spirocheta, which include the organism of syphilis, and a description of the other spirochetes that are to be differentiated from the treponema pallidum.

The book includes a full description of the organism of sleeping-sickness, of malaria, and of the pathogenic rhizopoda which have been studied in relation to rabies, scarlet fever, and

the organism of amebic dysentery.

The general practitioner will find it of service to review his early college biology, and add some to his former store by a study of the first part of the book, and anyone who is interested in the diseases caused by protozoa should not fail to study this work.

The book is well printed, profusely illustrated, thoroughly indexed, and has a complete bibliography. So far as protozoölogy is concerned, it is authoritative and comprehensive.

DISEASES OF THE STOMACH AND INTESTINES. By Robert Coleman Kemp, M. D., Professor of Gastro-intestinal Diseases in the New York School of Clinical Medicine. Philadelphia: W. B. Saunders & Co. Pp. 710, 269 Illustrations.

This work is essentially a compilation from the literature of others, but the material is so well chosen and so conveniently arranged no apology need be offered for its publication. The illustrations are profuse, many of them being photographs, and add greatly to the value and beauty of the book.

It is rather unfortunate that the author chooses to describe the stomach as a "pyriform sac with longitudinal diameter . . . lying transversely across the abdomen," instead of adopting the more modern conception of the normal stomach as a perpendicular organ.

The chapters on "Methods of Physical Examination" offer many valuable suggestions. Here the description of the method of Matieu-Remond for the determination of the total quantity of chyme, deserves special mention because it has usually been ignored by American writers.

The subject of diet is covered in a very comprehensive, scientific, and altogether commendable manner. It is refreshing to find *exulceratio simplex* (Dieulafoy) described as a distinct entity instead of being confused with gastric ulcer. The author's assertion, however, that these cases do not suffer from gastric symptoms, disagrees with the description of Dieulafoy, who says: "A case representing severe symptoms of hyperacidity, but showing actual subacidity, should always suggest *exulceratio simplex ventriculi*."

The functional diseases of the stomach are treated with more clearness than is usual in works of this character, and the distinction between neuroses and those nervous disturbances which have a definite cause back of them, is nicely drawn.

That section of the book devoted to a consid-

eration of the intestinal tract represents a very commendable effort to present everything of practical value in a clear and concise manner.

A novel and interesting feature is a complete chapter on diverticulitis.

Another chapter is devoted to typhoid fever for purposes of differential diagnosis.

The treatment of intestinal diseases is considered in a thoroughly scientific manner, and the distinction between medical and surgical cases is always clearly emphasized.

On the whole, the work is to be preferred to any of the numerous translations from the German, because, while it equals the latter in thoroughness, the style is more direct and the suggestions better adapted to the requirements of the American student.

F. S. BISSELL, M. D.

REPORTS OF SOCIETIES

SOCIETY REPORTS

HENNEPIN COUNTY SOCIETY

The Society met on June 6th, with thirty-two members present.

Dr. Hill took the chair at Dr. Donaldson's request, and Dr. Donaldson presented a case of vascular nevus in a little child, and showed photographs taken.

The following were elected to membership: Dr. Swan G. Wright, Dr. W. H. May, Dr. J. Walter Williams, Dr. S. J. Chelene, Dr. E. A. King, Dr. E. E. Benedict, Dr. S. E. Gilkey.

Drs. Paul A. Higbee and J. T. Moore presented papers on the symptoms and diagnosis of typhoid fever, and a general discussion followed.

The president was instructed to appoint a committee to make the necessary arrangements for the State Medical Association to meet in Minneapolis in October.

C. H. BRADLEY, M. D., Secretary.

RICE COUNTY SOCIETY

The Rice County Society met in Faribault on April 4th, with eighteen members present.

President Rogers briefly reviewed the history of the Society.

Dr. Chas. Lyman Greene, of St. Paul, the guest of the Society, read a paper on "Unusual Cases of Aortic Insufficiency." Dr. A. R. T. Wylie read a paper on "Feeble-mindedness in Relation to Disease," and Dr. A. C. Tanner spoke on "Army Sanitation."

Dr. J. B. White, of Montgomery, was elected to membership.

The Society was entertained at luncheon by the management of the new Evangelical Hospital, recently erected in Faribault.

FRED DAVIS, M. D., Secretary.

JACKSON COUNTY SOCIETY

The Society met at Lakefield, on May 10th, with the following members present: Drs. Maitland, Bennon, Arzt, Moe, Richmond, Searles, and Leight.

Discussion as to methods of dealing with dead-beats was participated in by the members present.

Dr. Portman, of Jackson, was elected as delegate to the state convention.

Motion was made and carried that the Society have four meetings a year, the next meeting to be held at Heron Lake, in July.

IVER S. BENSON, M. D.

NEWS ITEMS

Dr. Martin I. Olson, of Chicago, has located at Minot, N. D.

Dr. F. W. Briggs, of International Falls, has moved to Crookston.

Dr. S. D. Sour has returned to Ogilvie to resume practice at that place.

Dr. H. E. McKibben, of Hector, is doing post-graduate work in Chicago.

Dr. Edmund G. Stevens, deputy coroner of St. Paul, died last month at the age of 34.

Dr. and Mrs. Charles H. Mayo, of Rochester, have gone to Europe for a six weeks' trip.

Dr. R. I. Hubert, of St. Cloud, has moved to St. Paul, and is located at 853 Inglehart Street.

Dr. Otto Alving, who recently located at Triumph, has opened a private hospital at that place.

The board of education of Hibbing will hereafter employ a physician to inspect the school children.

Dr. P. F. Brown, of Eveleth, has moved to Minneapolis, and become associated with Dr. A. E. Benjamin.

Dr. Charles W. Watson, formerly of Boyd, has located in Minneapolis, with offices at 3852 Second Ave. So.

Dr. T. C. Clark, of Stillwater, has resigned from the board of directors of the City Hospital of that place.

Dr. L. L. Sogge, of Windom, has purchased the Ruse Hospital at Windom, and will make extensive improvements.

Dr. R. D. Barber, one of the pioneer physicians of Nobles county, died last month in California at the age of 72.

A new hospital was opened at Munising, on the Range, last month. It is the gift of Dr. W. G. Mather, of that place.

The fifteenth annual meeting of the Sioux Valley Medical Association was held at Sioux Falls, S. D., on June 28th and 29th.

Dr. Belle M. Walrath, of St. Paul, died last month at the age of 63. Dr. Walrath practiced in St. Paul for thirty-five years.

Dr. John W. Bell, of Minneapolis, has returned from Europe. Dr. Bell spent three months in the hospitals of Vienna and Berne.

Dr. H. M. Frances has resigned from the staff of the More Hospital at Gilbert, and will enter private practice at that place.

Dr. L. J. Stauffer, a recent graduate of Northwestern, Chicago, has an appointment as interne at Mound Park Sanitarium, St. Paul.

Dr. Claud M. Ferro, of Marshall, died last month at the age of 59. Dr. Ferro practiced a number of years, and until lately, in Minneapolis.

Col. Wm. W. Gray, who has been on duty in the Philippines, has been appointed surgeon for the Department of Dakota, with headquarters at Fort Snelling.

Architect Joseph Schwarz, of Sioux Falls, S. D., has completed and is exhibiting plans for a building for the McKennon Hospital Association of that city.

The business men of Glenwood subscribed \$10,000 in three days toward building a hospital for that place. It is hoped that \$25,000 or more will soon be raised.

The late Dr. Byron Robinson, of Chicago, gave his medical library to the University of Wisconsin. In the 1,500 volumes are many works on the history of medicine.

Dr. Charles H. Zander, a recent graduate, is in charge of Dr. Martin Kranz' practice at Man-

dan, N. D., during Dr. Kranz' vacation. Dr. Zander will locate in St. Paul.

Dr. Palmer E. Brandon, of Chicago, has entered into partnership with Dr. Iver S. Benson of Jackson, for the purpose of conducting the Southern Minnesota Hospital, at Jackson.

The Catholics are planning to build two large hospitals in South Dakota. Jamestown has offered to subscribe liberally for one. It is proposed to erect a building to cost \$50,000.

The Camp Release District Society will meet in Minneapolis on July 28th. The meeting will take place in the forenoon, and in the afternoon the members will attend special clinics arranged for them in the hospitals.

St. Luke's Hospital of Duluth has received a bequest of \$15,000 from the late Mrs. Maria G. Giffin. The interest of the fund is "to be used for charity, preferably for children." Bequests of this kind are very much too rare.

Dr. F. W. Schultz, formerly of Duluth, has just returned from Germany, where he has been studying the diseases of children, and has come to Minneapolis to devote his entire time to pediatrics. He is located at 820 Donaldson building.

The Mudcura Sanitarium at Shakopee is building a temporary ten-room cottage addition to take care of its overflow patients. A landscape gardener has been at work on the Sanitarium grounds, and extensive plantings will be made.

Dr. H. M. Bracken, executive officer of the State Board of Health, has been appointed by the Board delegate to the International Congress on Hygiene and Demography, which meets in Paris this month. Dr. Bracken will leave about the 15th, and will spend several weeks in Europe.

The Medical Department of the University of Minnesota was one of three medical schools outside of St. Louis which were awarded certificates of honor for their scientific exhibits at the St. Louis meeting of the A. M. A. A certificate was also awarded to St. Mary's Hospital of Rochester, Minn.

Dr. E. L. Baker, who has just finished a year's work as interne in Asbury Hospital, has become associated with Dr. Geo. D. Head, of Minneapolis, and will begin work here this month.

The Carnegie Foundation has thus far recognized only four state universities, giving their professors the benefit of the retiring pensions of The Foundation. They are the Universities of Minnesota, Michigan, Wisconsin, and Toronto.

The St. Louis College of Physicians and Surgeons has sued The Carnegie Foundation for \$100,000, claimed as damages done the college by the statements in the Flexner Report. This school gets also a low rating in the report of the Reference Committee on Medical Education, made at the St. Louis meeting of the A. M. A. In the latter report the school is classed among those pronounced unqualified to turn out men for the profession.

[Notice.—A physician who offers his practice for sale through these columns is entitled to full information concerning an applicant, and unless this is given a reply may not be received, because a physician who sells the good-will of his practice is in duty bound to sell to a man worthy the confidence of his former patients, and to no other man will he make known his intention of changing his location.]

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P. S.—Thiocol is a product of the Hoffmann-La Roche Chemical Works, 65 Fulton Street, New York.

THE HAY-FEVER PROBLEM

Again the physician is called upon to grapple with hay-fever, and a veritable army of sneezing, watery-eyed “miserables” come to him for relief. For a long time the idea was prevalent that little or nothing could be done for these people. The patient dreaded the coming of the disease, and the physician dreaded the coming of the patient. The situation was one of ample misgivings and scanty faith. Now it is pretty well recognized that medication, while still empiric to a certain extent, is nevertheless effective. The symptoms can be controlled or greatly minimized, and the patient may have the relief he seeks. And for this much he will be truly thankful, and the physician, in turn, duly thanked.

Adrenalin is perhaps the most effective agent. It antagonizes the symptoms and secures to the patient a marked degree of comfort. It allays the congestion of the mucous membrane, reduces the swelling of the turbinal tissues, controls the nasal discharge, cuts short the violent paroxysms of sneezing and the abundant lachrimation, and prevents depression by stimulating the heart.

The practitioner who desires to employ Adrenalin in the treatment of hay-fever has recourse to the product in a number of forms. Adrenalin Chloride Solution (1:1000) is doubtless the most widely used. It is first diluted with four to five times its volume of physiological salt solution, then sprayed into the nares and pharynx. Adrenalin Inhalant has many adherents. This is an oil solution, and is administered by spray. It may be diluted with olive oil—the inhalant one part, olive oil three to four parts. A third preparation is Adrenalin Ointment (1:1000), which is effective either alone or in supplementing Solution Adrenalin Chloride. Another is Adrenalin and Chloroform Ointment—at once an astringent, antiseptic and mild anesthetic. The latest is Anesthone Cream (Adrenalin Chloride 1:20,000, para-amidoethyl-benzoate 10 per cent. in a bland oil base), an astringent, anesthetic ointment. The ointments and cream are supplied in collapsible tubes with elongated nozzle, which facilitates their application to the nasal mucosa.

Literature on any or all of the products above mentioned may be had upon application to the manufacturers, Messrs. Parke, Davis & Co., at their general offices in Detroit or any of their numerous branch houses. The company, by the way, issues an attractive brochure on the subject of hay-fever.

A CONSERVATIVE HOUSE

Some of the members of the medical profession would open their eyes could they look over the files of the Denver Chemical Mfg. Co., manufacturers of Antiphlogistine, and see the many, many requests for window hangers, store advertising, etc., which they are constantly refusing. This company could get an almost unlimited amount of advertising, good advertising too, at no expense, except for the printing of the cards or booklets, if they did not have too great a pride in the honorable position which they occupy as purveyors to the medical profession. Perhaps they feel the ethical requirements of their position more keenly on account of the personnel of the company. Half the members of the board of directors are physicians who have spent each of them many years in active practice, the president of the company being an ex-president of his State Society, and the head of the advertising department is himself a physician, and was for many years the secretary of his County Society.

With such a personnel, it is not surprising that the advertising is not only strictly ethical, but even ultra-conservative in spirit.

EUPHTHALMINE IN CATARACT

Dr. A. Dufour describes in the “Revue medicale de la Suisse Romande Geneva” (January 20th) a new and most interesting use of this mydriatic. In many cases of cataract, central opacity of the lens precedes cortical involvement. If the pupillary aperture be narrow, as is generally the case in the aged, vision is greatly interfered with by such central opacity, which blocks the entire pupil, and where the condition is bilateral the patient is unable to read or write. The operation of preliminary iridectomy, usually performed under these circumstances, may, in certain instances, be impossible, either on account of general disease, contra-indicating operation, or because of opposition to the performance of the operation on the part of the patient.

For several years Dr. Dufour has successfully used euphthalmine hydrochloride, which by its mydriatic effect permits vision through the uninvolved cortical portions of the lens. A mydriatic, used for such a purpose, must be entirely harmless, since it may have to be used for several years. In the use of euphthalmine the author has observed no untoward effects. Intra-ocular tension is not affected, accommodation is but rarely and very slightly influenced, and there are no secondary intoxicating effects. Sometimes there is a slight burning sensation of the conjunctiva in the first half minute or so after instillation. Mydriasis begins in 20 minutes and lasts four hours with the 3 per cent and seven hours with the 5 per cent solution. To avoid the dazzling effect from the increased admission of light, the patient's ordinary glasses may be colored blue or greenish-yellow.

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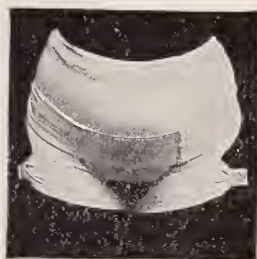
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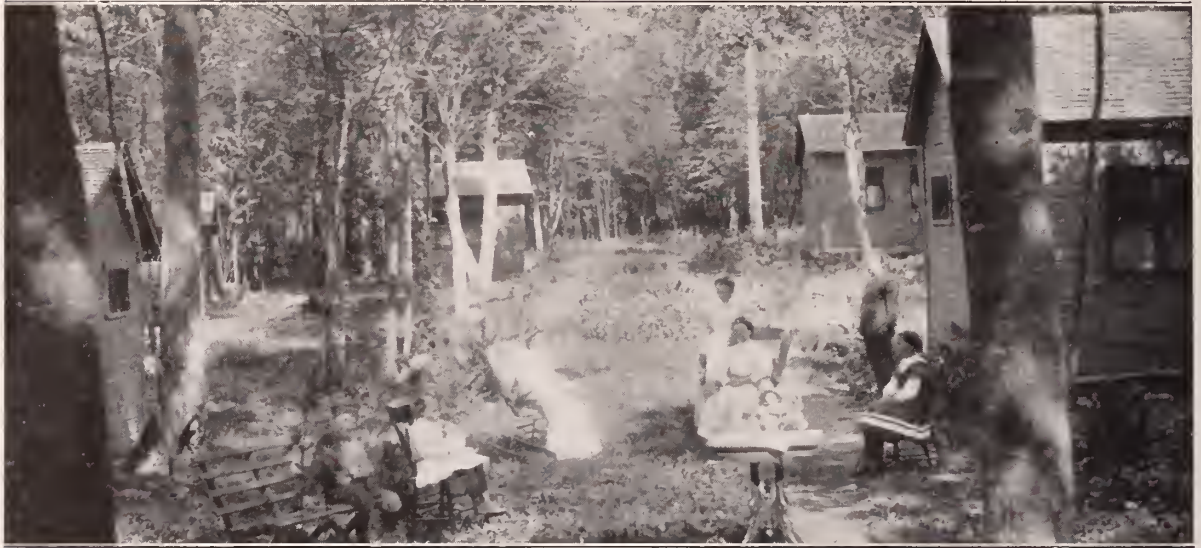
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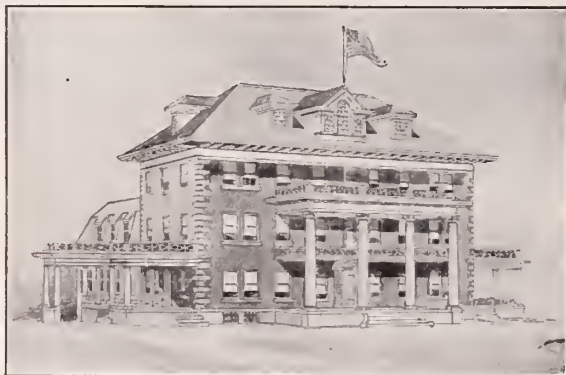
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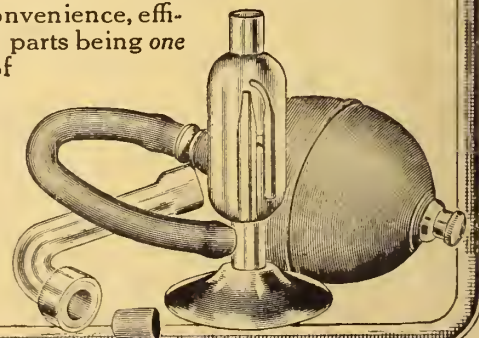
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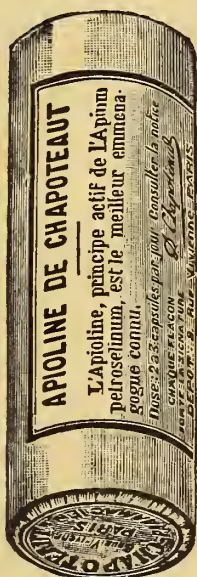
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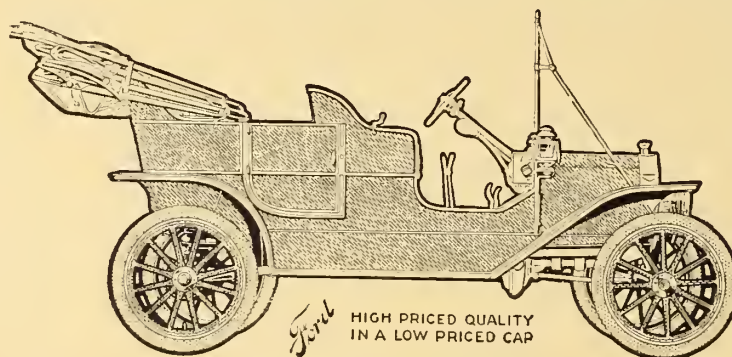
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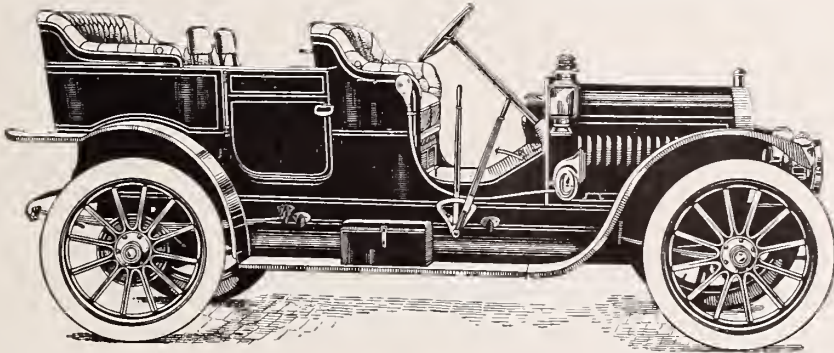
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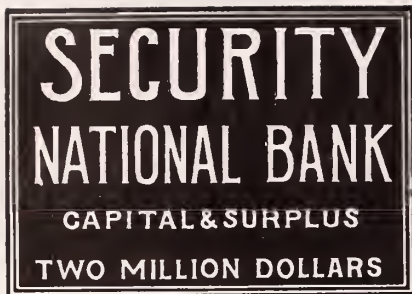
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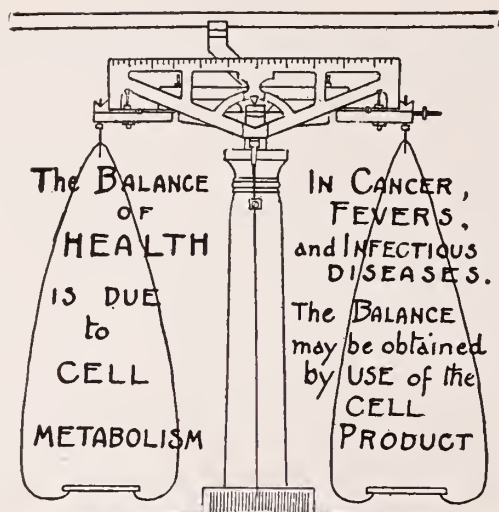
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JULY 15, 1910

No. 14

EPIGASTRIC HERNIA*

BY E. P. QUAIN, M. D.

BISMARCK, N. D.

In this paper we shall discuss only such epigastric herniæ as occur in or near the linea alba, between the recti muscles.

Medical writers of today, particularly those of England and America, have slighted the subject of epigastric hernia to a surprising degree. The frequency of its occurrence and the severity of the symptoms demand more attention than the short paragraph, which barely mentions the condition, in a few text-books on surgery. It should be given consideration in books on medical diagnosis.

Many cases of epigastric hernia have been diagnosed as gastritis, gastric ulcer, cholecystitis, appendicitis, pylorospasm, indigestion, etc., and treated as such. Finally, when the patient shows no improvement after long-continued dieting and medication and perhaps ill-advised and misdirected surgery, a diagnosis of neuralgia, gastralgia, or gastric neurosis is made. I am convinced that if we think of this condition in our routine examinations of the upper abdomen we shall avoid one more chance of error. A diagnosis of "nervous dyspepsia" should never be made before the linea alba has received proper attention. To state that an affliction is "neurotic" or "neurasthenic" may sound very wise and scientific, but it means, generally, that we do not know the cause of the distress.

Especially should the general practitioner, who sees these patients first, remember that an examination of the upper abdomen is not complete without taking into consideration the possibility

of this condition. It is significant that many persons who have serious trouble from this source have been treated medically for years, on account of symptoms erroneously ascribed to internal causes.

There are several reasons why epigastric hernia is so easily overlooked. The tumor may be small. It may be merely a small lump of fat, no larger than a pea, squeezed out through a narrow fissure in the aponeurosis, and it cannot be palpated if the subcutaneous tissue be firm and fatty. It may be without local symptoms, and the patient may not know of its presence. Occasionally the hernia may penetrate only the transversalis fascia, and not the aponeurosis. Such a case would make diagnosis impossible before incision.

This form of hernia was described in 1744 by Günz, under the heading "De Ventriculi Herniis." He thought the stomach was involved in the hernial contents because of the marked gastric symptoms produced. Since then very little has been written about it until modern surgery began to recognize and treat it.

The frequency of occurrence of epigastric hernia varies considerably in different clinics. Statistics from a dozen larger hospitals, mostly European, show that from $\frac{1}{2}$ to 4 per cent of all herniæ were epigastric. Imfeld from Kocher's clinic in 450 consecutive hernia cases reported 21 epigastric, or 4.6 per cent.

The class of people composing the clientele of a given clinic will modify the frequency of hernia. This holds true for epigastric hernia also. Laborers who strain their abdominal mus-

*Read before the North Dakota State Medical Association, May 10, 1910.

cles in heavy lifting, supply the majority of the cases. Ewald saw twelve cases in the polyclinic, but only one in his private practice in one year. Kuttner made the same observation. Ferguson relates two cases of epigastric hernia from trauma, the injury in each case being a long-continued pressure to the epigastrium, due to the occupation of the patient. Other traumatic cases due to certain occupations, have been reported.

Our own experience has convinced us that the ratio of four epigastric out of every one hundred herniæ, as given by Cluss, Hirschkopf, and Imfeld, is none too high. In the past four years we have operated upon 142 hernia cases, and out of these, 7 have been epigastric. This is nearly 5 per cent.

The linea alba is made up of the interlacing fibres of the aponeurosis, constituting the sheaths of the recti abdominis muscles. These fibres form a dense network through which several blood vessels emerge. Behind the linea alba and between it and the transversalis fascia and peritoneum, lies a rather loose areolar fatty tissue, the anterior margin of the ligamentum falciforme of the liver. Numerous blood-vessels pass from this space through small openings between the fibres of the linea alba. These blood-vessels are firmly attached to the transversalis fascia and the peritoneum.

Anatomically, epigastric herniæ may conveniently be divided into two classes: First, simple fat tumors, or properitoneal lipomata, which protrude through a cleft in the linea alba and contain no demonstrable peritoneal sac; second, true herniæ with a sac of peritoneum, with or without contents.

The first variety is produced as follows: A small nodule of fat finds its way out along one of the blood-vessels perforating the linea alba. The muscular tension and intra-abdominal pressure increase the cleft between the fibres and force out the tumor. The opening rarely exceeds one cm. or two transversely, while vertically it may be only a few millimeters. The tumor is a firm lipoma, in size running from that of a pea to a walnut, rarely larger. The blood-vessels to which it is attached constitute the main part of the pedicle.

This properitoneal lump of fat may remain thus displaced into the subcutaneous tissue for years and cause no symptoms in 33 per cent of cases, according to Blumer. It may be first discovered accidentally in a routine examination by the physician. But in the majority of instances the muscular movements of the abdomen, to-

gether with the abdominal pressure from within, cause the tumor to pull on the blood-vessel. This, in turn, drags on the peritoneum to which the blood-vessel is attached, and causes pain.

After incising the skin and subcutaneous tissue under local anesthesia and dissecting away the fat around the pedicle, the smaller lipomata may be forced back through the cleft through which they emerged, but if the patient is then asked to cough or strain, the tumor springs out again at once. This forms a beautiful demonstration of the mechanism of this form of hernia.

A pouch of peritoneum may be dragged out with the pedicle described above. This becomes a true hernia. Berger and Brentano believe that in most cases, even in the simple lipomata, a small peritoneal sac is present. Kuttner and Lindner, on the other hand, have searched in vain for evidence of a sac in many of their herniæ and marveled at the severity of the gastric symptoms that were cured by the removal of very small lipomata.

The presence of a large and easily discernible peritoneal sac in epigastric herniæ is rare. Trauma is the causative factor in perhaps the majority of cases. From Lothrop's report from the Boston City Hospital one is forced to the conclusion that epigastric herniæ with good-sized peritoneal sacs cause no more severe symptoms than do the small lipomata.

Hernial contents are not usual, but the omentum and more rarely intestines have been found strangulated in this situation. A most interesting feature is the possibility of a hernial sac burrowing between the transversalis fascia and the aponeurosis. Mohr has met this condition and describes two cases of strangulated omentum in concealed epigastric hernial sacs which did not penetrate the aponeurosis.

The symptomatology of this condition varies greatly. Perhaps one-third of the cases have no subjective evidence of a hernia. On the other hand a few cases have been described where the patient had paroxysmal abdominal pain, persistent emesis, and collapse. It is to be thought that such cases have a temporary incarceration of omentum or other organ. The majority of the cases complain of stomach trouble, pain, eructations, loss of appetite, nausea, and flatulency. The pain is most constant. It is most severe one to two hours after meals—relief comes with an empty stomach. It is referred to the stomach in most cases, but may be felt in the back, shoulders, and arms. A "girdle sensation" is sometimes complained of. Com-

paratively few patients point to the seat of the hernia as the origin of their distress. Kuttner says the characteristics of this pain are the occurrence when the stomach is full, especially with solid food; relief when lying in the dorsal position; and increase in severity when bending forward.

The pain differs from that of gastric or duodenal ulcer, with which it might most easily be confused, by coming on sooner after meals. It is not influenced by any special variety of food, and treatment which would relieve an ulcer pain will have no influence on a hernia. The tenderness felt on pressure is confined to a small spot over the tumor.

Gastric examination and analysis, as a rule, show a normal stomach. Bohland and Blumer found hyperacidity in one-fifth of their cases; but this may be explained by coincident gastric pathology.

In patients with a heavy layer of adipose tissue under the skin it may become impossible to palpate a small lipoma on the aponeurosis. In such cases the history, together with the local tenderness, might warrant exploration, as Sebba advocates.

Very little needs to be said about the treatment. In the olden times, bands, trusses, and girdles were used when the right diagnosis had been made, but, unfortunately, these means generally added more discomfort and did not cure. Walther relates the cure of an epigastric hernia in a child by means of a specially made truss and confining the patient to bed for five years.

The only rational treatment consists in ligation of the pedicle and removal of the lipoma, followed by suture of the split in the fascia. It is a minor operation and can easily be done under local anesthesia. Peritoneal sacs, when present, must be occluded.

The following is a brief report of our cases:

Case 1.—Male, aged 24 years; farmhand. Had abdominal pain three years; sometimes unable to work for a day or two at a time; relieved by vomiting; frequently noticed a soreness about the navel; always very constipated; had never noticed a tumor.

Examination showed a small tumor 1 cm. above the umbilicus which gave impulse on coughing. Continued palpation caused considerable tenderness.

Incision showed three small slits in the linea alba within an area of a 5-cent piece. Protruding through these were three small pedunculated lipomata, which were squeezed together into

one lump of fat, the whole not larger than a lima bean. His symptoms disappeared with the removal of the tumor and closing of the fascia.

Case 2.—Male, aged 18 years; living on a farm. Complained of tenderness referred to a small irregular swelling above the umbilicus. Hard work made the pain worse. Occasional spells of vomiting were attributed to the same cause. Removal of a small properitoneal lipoma in the middle line cured the distress.

Case 3.—Male, aged 28; farmer. Had "stomach trouble" for five or six years; constant tenderness above the navel. A single tumor, the size of a small strawberry, 3 cm. above the umbilicus, was found to be a pedunculated lipoma attached to the deeper structures through a split in the linea alba. The symptoms were removed by operation.

Case 4.—Female, aged 31, farmer's wife. She was quite fleshy, and was accustomed to work in the fields since childhood. Suffered from attacks of abdominal pain for eight years. Pain mostly about the umbilicus. Worse after hard work and after large meals. Could not wear clothes tight over the upper abdomen on account of this pain. Had been operated on for appendicitis six years ago without relief from this distress.

Examination: Pressure over the right rectus muscle near the costal margin caused pain, and careful palpation determined the presence of a tumor at that point.

Incision revealed a flat lipoma 5 or 6 cm. in diameter, which was attached to a narrow pedicle emerging through a small cleft in the aponeurosis at the inner margin of the rectus muscle. The pedicle contained several rather large blood-vessels. Ligation of the pedicle and suture of the cleft cured the patient of her long-standing abdominal pain.

Case 5.—Male; farmer, aged 27. Complained of a soreness over the entire epigastric region. Hard work intensified this distress. He had noticed a swelling over the middle of the linea alba some years, but was not aware of any connection between the swelling and the soreness. Examination gave negative results, except that a tumor the size of a peanut was noticed at the point mentioned. It gave impulse on coughing, but was not tender to touch.

Operation revealed a lipoma with a wider pedicle than usual. The opening in the aponeurosis through which it came was in the middle line and about 3 cm. transversely. Under the aponeurosis was an irregular mass, three or four

times as large as the tumor in front of the linea alba. The one in front was evidently a bud squeezed out through the fissure from the main lipoma, originally of the peritoneum.

The patient was relieved of the epigastric symptoms after the operation.

Case 6.—Farmer; aged 51. Had abdominal distress, especially after meals, for many years. Recently, he had suffered from an intercostal neuralgia of both sides, but decidedly more marked on the left, giving him a "girdle sensation." He had noticed that this sensation was intensified by pressure upon the epigastrium.

Examination showed the presence of two small tumors at the lower third of the linea alba, each about 1 cm. in diameter. By incision three small lipomata were found attached by pedicles through clefts in the aponeurosis to the right of the linea alba. The lower two were united by fibrous tissue, and the two pedicles were separated by a few strands of the aponeurosis. The condition was removed by operation and the patient's "girdle sensation" and intercostal neuralgia disappeared at once.

This patient also had an inguinal hernia of long standing, but it is well supported by a truss and causes him so little inconvenience that he is unwilling to have it repaired.

Case 7.—Girl, 12 years old. Had a tender spot immediately above the umbilicus for three years or more. Muscular exertion incident to hard work on the farm, or violent play, made it worse; stooping had the same effect. When lying on her back she did not feel the soreness. At times she could not eat as much as she would like on account of this trouble. She stated that a small irregular mass, less than 1 cm. in diameter, was the cause of the pain. This had been present since the beginning of her symptoms.

Incision showed two small lipomata escaping through two small clefts to the right of the linea alba, the bodies of the tumors being united in the same delicate capsule. Removal of the fat and suture of the clefts removed the soreness complained of.

A study of these cases shows that none of them had very severe symptoms. Yet in three cases, 1, 4, and 6, the pain had been sufficient to interfere materially with their necessary work. They were all from the farm, and this, in our opinion, is an etiological factor, in view of the hard work done and continuous muscular strain necessary in their occupation.

Contrary to the observations of some writers on this subject, in over half of our cases the

patients had themselves found the tumor. The symptoms were referred to the umbilical or epigastric region in all cases. The hardest pain was at the site of the hernia in three cases. All were relieved of their symptoms and have remained grateful for the relief. So far as we have been able to ascertain, no case has had a recurrence.

Tillmanns, who states that epigastric herniæ generally consist of omentum and that the pain is conditioned upon traction on the omentum, must be mistaken, for we found neither a peritoneal sac nor omental adhesions in these cases.

Five were in males and two in females. This is a higher ratio of females than could be found in other reports.

None of these herniæ were to the left of the middle line. They were in the linea alba or to the right of it. Vidal and Dittmer gave the left side as the most frequent site.

Four were multiple, and one was associated with an inguinal hernia. Multiple herniæ, and the occurrence of herniæ in children, point to a congenital condition. Our youngest patient was 12 years old. Lothrop saw two in infants.

The lipoma under the costal arch in Case 4 was exceptionally large, but is not a record, for Gascoven found one similarly produced weighing five pounds.

A curious circumstance was the presence of a left-sided intercostal neuralgia, which was cured by the removal of the right-sided herniæ in Case 6.

During the time we treated these seven cases we saw and recognized at least three other cases in office examinations. These had no symptoms from the herniæ and were not treated.

In conclusion, let me quote the advice of Richter, who wrote on this subject over a century ago: "Do not forget that small hidden herniæ can cause all varieties of stomach symptoms. Examine patients complaining of long-standing stomach disorders most carefully for herniæ."

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A TRIP AROUND THE WORLD

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MINNEAPOLIS

By reason of the interest shown by a number of physicians in my trip around the world, I have decided to give to THE JOURNAL-LANCET a brief description of some of the things seen which, in my judgment, will be of most interest to physicians.

The trip was undertaken for its educational advantages and was in every way entirely satisfactory. We left New York at 6:00 A. M. on October 16th, in the ship *Cleveland*, of the Hamburg-American line. The passengers numbered 650, nearly every state in the Union being represented, as was also Canada. The same boat made the entire trip, this being, I am told, the first time a party of sight-seers has circumnavigated the globe in the same vessel.

Our first stop was Funchal, Madeira, a quaint old place with very much to interest and delight the traveler. Here, it was said, Columbus got his wife, and the house in which he lived was shown to us. Vegetation of a semi-tropical nature was luxuriant. Most beautiful little parks were in the town and on the hillside. Several sanitariums were located on the hillside above the town. I visited a Sister's hospital with a most charming little park in front of it, which, as I was informed, belonged to the hospital. If any of you want to spend a winter in an ideal climate with most delightful surroundings, I can heartily recommend Funchal.

Our next stop was at Gibraltar, which is of interest chiefly on account of the wonderful English fortifications located there. I shall not take up time in describing this place, as it is nearer home and we have so many other things to describe farther away. Naples was our next stop. Our visit here was too brief to be very satisfactory, and as it is a place so frequently visited by Americans, I need not dwell upon what we saw there, except to say that in visiting the museum, we saw a set of surgical instruments that had been taken out of the ruins at Pompeii. This made me think we had not probably made the great advancement in a surgical way that we sometimes give ourselves credit for. After leaving Naples in the evening, we arrived at the Straits of Messina the next morning, where we were permitted to see the devastation wrought by the great earthquake in the towns of Messina and Regina. Our

next stop was at Port Said, where we took the train for Cairo. For some distance out of Port Said the country was simply a sandy desert, and then we came to the irrigated district where cotton, corn, sugar cane, and other products were growing luxuriantly. The natives could be seen at work in the fields in dress and undress uniform. At Cairo we stopped at the Grand Continental Hotel. This and the Shepherd's hotel are as fine hotels as one can find anywhere. Cairo has two extremes in its appearance and construction. The English part of New Cairo and Old Cairo. The former for the most part is a beautiful city, and the latter is the most filthy place I ever visited. The Egyptian flies are more numerous than Jersey mosquitoes. Little children in their mother's arms or sitting astride her hip will have their faces and eyes covered with flies, which neither the mother nor child tries to brush off. I saw more sore eyes here in three days than in any ten years of my practice. They have very good hospitals with nice surroundings, but it seems to me that those in authority are not making the effort in a sanitary way that they should. When compared with what the United States is doing in the Philippines in the way of sanitation, we have reason to feel proud of the result. When visiting the pyramids and the Sphinx and the Temple of the Sphinx, we knew that we were on ancient grounds; that, instead of counting our years by the hundreds, we here count them by the thousands; and that here there existed many hundred years before the Christian era a civilization from which we have obtained much.

After leaving Cairo our next stop was at Suez, the Red Sea end of the Suez Canal, and then down through the Red Sea, and here that wonderful story came to us of Moses smiting these waters and their rolling back, allowing the children of Israel to pass over dry-shod, a physical impossibility.

Our next stop was at Bombay, India, where we put up at the Taj Mahal hotel. This is a very fine hotel with servants by the dozen. I was very much impressed with the patience and faithfulness with which they serve you. They lie in the hall by the door all night ever ready to answer any call. I visited here one of the

largest hospitals in Bombay built on the cottage plan. It is a well arranged and modernly equipped hospital. The nurses are Hindoos, except the head nurses. The operating-rooms were very fine modern operating-rooms. It was a charity hospital, and I asked if the English government supported it. I was told it did not, but that it was supported by the wealthy Parsees. There is a medical college in connection with the hospital. The students are Hindoos. One of the graduates showed us around. He spoke good English and said they were taught altogether in English. I talked also with one of their second-year students. He was a bright, interesting fellow and wanted to know all about our medical colleges. He knew considerable about two or three of the institutions of the United States and asked many questions. My understanding was that the college was also supported by the Parsees. There are three medical colleges in India. I want to say at this point that the general impression among the lay people is that hospitals had their origin in the Christian era. This is not correct. "In the eleventh century B. C. there was a college of physicians in Egypt, who received public pay, and were ruled by law as to the extent and nature of their practice." At Athens in the fifth and sixth centuries B. C. there existed physicians and dispensaries; mention is also made of one hospital. In the fourth century B. C. an edict in India by King Asoka commanded the establishment of hospitals throughout his dominions, and there is direct proof that these hospitals were in existence and flourishing in the seventh century A. D. I quote from Ochsner, who quotes from the history of Medicine, 1857: "Evidence is conflicting concerning the reign and the death of Gautama Buddha, but it can be safely estimated that both of these events occurred as early as the fourth century B. C. We find record of his having appointed physicians, one for every ten villages, and he also built asylums for the sick, the destitute, and for the cripples. His son, Upatisso, built hospitals for the blind and for pregnant women."

We visited the places and witnessed the methods of disposing of their dead. The Hindoos cremate their dead, and while the process is a crude one it is a sanitary one and equally as effective as that accomplished by the expensive crematories of this country.

A layer of wood like cordwood is laid on stones, leaving a little space between the ground and

the wood. The body is then placed on this wood with the limbs bent up at the knees so that the legs are flexed on the thighs; then several layers of wood are piled on top of the body when fire is started under all. It is surprising how quickly and completely all are consumed.

We visited the towers of silence where the Parsees dispose of their dead. The place is a beautiful park or garden on the top of a hill and the tower located in this is a structure, as Mark Twain describes it, like a gas-tank of the city gas company half full. Sitting around on the edges of this tower were five hundred vultures waiting for their next victim. They swoop down upon a body and soon nothing remains but the bones. These are allowed to remain exposed to the rain and sunshine for a month when they are thrown into the well of the tower and disappear in dust by a certain treatment which they receive, the nature of which I did not learn. We attended two receptions given us by wealthy Hindoos at their elegant homes, which were very much enjoyed, especially by the ladies. We drank nectar and were served elegant meals. The people seemed all vegetarian. We were given presents and sprinkled with perfumes. It was an ideal opportunity for studying the people of the better class in that country.

We left Bombay, having enjoyed to the fullest extent our visit, and set sail for Ceylon. We arrived at Ceylon on the morning of November 21st in the beautiful and busy harbor of Colombo. On landing we were transferred in carriages to the railroad station, where we found a special train waiting to carry us to Kandy, about seventy-five miles in the interior of Ceylon. This ride was a pleasant one, as we passed through a country in the highest state of cultivation, with rice fields, in various stages of growth, tea plantations, cocoanut palms, most luxuriant tropical plants and trees, and beautiful flowers. The road rises higher and higher as we pass up through beautiful valleys and around and through mountain peaks and ranges. In making this ascent we passed through five tunnels. At Kandy carriages awaited us and we were at once taken through probably the most beautiful botanical garden in the world, unless that at Java equals it, which we did not think it did, after seeing both. I cannot conceive of anything of the kind being made more beautiful. Kandy itself is a pretty little town. The hotel was a delightful place to stop. We were served elegant meals. The people seemed

a happy, prosperous people, waving their hands and bidding us welcome. It was hard to tell by their dress which was male and which female. We accused one of our gentlemen friends of flirting with a handsome young lady who turned out to be a young man.

At Kandy we visited the temple of Buddha's Tooth. We did not see the tooth, but saw the safe in which it is kept, which is securely fastened. The streets in Kandy and the public roads in Ceylon are elegant. You have heard of Ceylon's spicy breezes; well, they are there. Our return from Kandy was the same evening after dark, and I never saw so many fireflies in my life. The next day we spent seeing the sights in Colombo. It is quite a city with beautiful parks and many elegant homes. Its cinnamon garden was a beautiful place. We were given a delightful ride along the seashore to Mount Lavinia. An elegant hotel is located here high up on the banks of the seashore. In Colombo we were entertained at the Galle Face hotel, an elegant place to stop, right on the banks of the sea. It was hot in the sun in Ceylon, but in the shade it was very comfortable. Both Colombo and Kandy are comparatively clean and healthful places. A more beautiful spot than Ceylon I do not think exists on the globe.

On November 23d we sailed for Calcutta, and on the 27th we anchored at Diamond Harbor in one of the mouths of the Ganges River, called Hoogly River, forty miles from Calcutta, and were taken by river boat to Calcutta, arriving there after dark. Calcutta is a larger city than Bombay, but does not impress one so favorably. The people are the same as at Bombay. They have good schools and hospitals, also a medical college with some three hundred students in attendance. Here we saw the famous Banyan tree. It is a wonderful tree 139 years old. It is 51 feet in circumference $5\frac{1}{2}$ feet from the ground, and 997 at its crown. It is 85 feet high and has 562 aerial roots, actually rooted in the ground,—a marvel of trees. We went through Lord Minton's residence, he not being at home, and found it larger than the White House at Washington. The museum was one of the finest ever visited. The arrangement of skeletons through a long gradation, from the lowest type of monkey up to man, made an interesting study in evolution. We saw the natives bathing in the filthy Ganges and washing their mouths with the same water. Mark Twain tells the following about the water of the Ganges: "When we went to Agra, by and by, we happened there

just in time to be in at the birth of a marvel,—a memorable scientific discovery,—the discovery that in certain ways the foul and derided Ganges water is the most puissant purifier in the world. This curious fact, as I have said, had just been added to the treasury of modern science. It had long been noted as a strange thing that while Benares is often afflicted with the cholera, she does not spread it beyond her borders. This could not be accounted for. Mr. Henkin, the scientist in the employ of the government of Agra, concluded to examine the water. He went to Benares and made his tests. He got water at the mouths of the sewers where they empty into the river at the bathing ghats; a cubic centimetre of it contained millions of germs; at the end of six hours they were all dead. He added swarm after swarm of cholera germs to this water; within the six hours they always died, to the last sample. Repeatedly he took pure well-water which was barren of animal life, and put into it a few cholera germs; they always began to propagate at once, and always within six hours they swarmed and were numberable by millions upon millions."

"For ages and ages the Hindoos have had absolute faith that the water of the Ganges was absolutely pure, could not be defiled by any contact whatsoever thing touched it. They still believe it, and that is why they bathe in it and drink it, caring nothing for its seeming filthiness and the floating corpses. The Hindoos have been laughed at these many generations, but the laughter will need to modify itself a little from now on."

I quote this to show that many of the things these people do which we are disposed to ridicule may have some scientific foundation if searched out. Many other sights were seen in Calcutta which were of great interest, but which I must omit from this article.

We next visited Rangoon, Burma, where we arrived on December 4th. Rangoon is a very pretty place. Here we saw the elephants work in the lumber-yard. Burma has very rich oil wells, and it is one of the places the Standard Oil Company has not gotten into. Jade is an article of industry, and I am told the Chinese buy all the good jade mined in Burma. The great sight of Rangoon, however, is the Shway Dagon Pagoda. It is the center of the Buddhist world on account of the great sanctity of the relics that it contains, and is by far the largest of the pagodas to be found throughout the country. This pagoda is said to have been founded

588 years B. C., and it is without any doubt of great antiquity. It is raised upon a platform or terrace nearly 170 feet high, 900 feet long by 680 feet wide. This pagoda, like most of the thousands of other pagodas, in shape resembles a huge column or cone very wide at the base, being no less than 1,350 feet in circumference, tapering rapidly in a bell-like figure to a circular column, the entire height being 317 feet. This immense structure is composed of solid masonry, brick, stone, and cement, the top being surmounted by an iron spire or ti, bearing a crown of gems which is worth at least \$400,000 in gold. The pagoda is covered with gold-leaf from base to spire, and its huge but graceful form, towering above all its surroundings, can be seen for many miles glittering brightly in the sunshine or with a pale beauty shining in the effulgent moonlight of the tropics. The column is bound at frequent intervals by iron bands, from each of which are suspended many bells of gold, silver and bronze. As these are swayed by the wind their musical pealing is heard below with delightful effect. Surrounding this main pagoda are a great many smaller ones on the same platform, and these are covered with glass of varied colors laid in cement in mosaic form which sparkles in the sunshine. To this, add a covered entrance of carved wood of the most beautiful kind and some old paintings, and you have a veritable wonderland. The Royal lakes is a beautiful spot, the Holy Fish Pond is a great place for catfish, the waters simply swarming with them. There is a leper colony here. The French doctor in charge thought he had discovered a cure. I was telling Dr. Heyser, of Manila, about it, and he said it was a failure, as they had tried it.

Our stay in Rangoon was a busy one and one that added much to our store of general information. We left at 10 p. m. December 5th, and arrived at Singapore early the morning of December 10th. There had been a good rain the night before our landing and everything looked as fresh and green as it does here in June. The British Botanical Gardens and the government house and grounds are delightful places to visit. All the places visited since leaving Naples have been under British control. Much has been done in a sanitary way, but one is impressed by the idea that they might do much more than they have. The same is true of the educational facilities offered. They could do very much more than they have done and to very good advantage.

We now go south of the equator and cross it sometime during the night of December 10th. This was unfortunate, as it made it out of the question to see the dividing line between the north and the south. We were, however, the next day duly initiated into the mysteries of Neptune with great pomp and plenty of water. We arrived at Java on December 12th and were given a hearty welcome by the Dutch and natives. At Batavia, about fifteen miles from the coast, everybody was out along the streets to welcome us. There were some amusing incidents in connection with our visit here. We were taken around in two-wheeled carts called *dos-e-dos*, in which the driver sat in the front seat and the passenger sat behind him facing backward. The cart is drawn by two very small ponies, and you feel that you could take one under each arm and walk off with them. We had a Western doctor with us who was somewhat of a heavyweight, and when he would get into the cart the pony would go up in the air, touching the ground with his hind feet. A four-wheeled conveyance had to be furnished for the doctor.

Java is an island about 600 miles in length and from 60 to 120 miles in width and has a population of from 29 to 30 million. The people are a prosperous-looking people. The soil is fertile and well cultivated. Sugar, rice, tea, and coffee are raised, together with many tropical fruits. Java is the home of the volcano and contains more of these fiery reservoirs than any other area on the earth's surface. It has, according to Wallace, thirty-eight volcanoes, some of them still smoking. Batavia is a clean town. The streets are sprinkled by men carrying a large wooden sprinkling can fastened with some sort of strap around their shoulders. The botanical gardens here contain probably a greater variety of trees and plants than the gardens of Ceylon, but in their grouping and arrangement, we gave Ceylon the prize of having the most beautiful botanical garden in the world.

We left Java December 13th, and arrived at Labuan, Borneo, December 16th. This was the hottest place we found on our trip. There was not much to see here, and so we were amused by native dances, football, buffalo races, etc. I was very much taken with the football. The game is what it is called, namely, football, and is played entirely by knocking the ball about with the side of the foot. All skill and no brutality. We were furnished a picnic lunch and hunted the shade to eat it and this was the six-

teenth of December, but I never wanted a shade any more in my life. We left here in the evening of the same day that we arrived, and started for Manila. We were all interested in this stop, as it had been a sort of object point, and we had been informed that we were to be given a royal reception. And we were. The morning of the 19th of December we were awakened by music that never sounded sweeter. It was our national airs played by their magnificent band of natives. Boats had met us many miles out in the harbor, and from that time on things were lively. We met many Minnesota people. Judge and Mrs. Elliott entertained us and gave us a most delightful time. As everybody knows something about the Philippines, I only want to give you my impression of what we have done in a sanitary way. Dr. Victor G. Heiser is in charge of the health department of the Philippine Islands and is a competent man. He has a corps of assistants who are as enthusiastic fellows as you can find anywhere. They have cleaned up Manila and the other towns of the islands, and have provided a good sewer-system for Manila, and where people are too poor to use or connect with the sewer-system receptacles are furnished for them, and these are taken care of every day. Garbage is taken care of just as well as in the city of Minneapolis. Wells have been sunk at different points over the islands. At first the inhabitants fought the idea of sinking wells, but now the Department can't sink them fast enough. They got rid of the mosquitoes and are starting in with a plan to rid themselves of flies. They introduced compulsory vaccination, built and equipped splendid laboratories, have just about completed an elegant concrete hospital, the plans of which were drawn by a New York architect, and what has been the result? Manila is as healthy a town to live in as Minneapolis. Twelve years ago there were 6,000 deaths a year in the Philippine Islands from smallpox. In the last three years there have been 16 deaths. In the Bilibid prison the annual mortality among 3,000 prisoners was reduced from 75 to 20 by the elimination of intestinal parasites. The mortality among children was very high, about 50 per cent. This has been very much reduced; I think Dr. Heiser told me about 25 per cent. This was accomplished by educating the people how to feed and care for their children. The United States is providing every means to care for the public health of the people in her island possessions, but cannot see the need of it at home. When Congress is asked to establish a bureau

of public health, which could be to the people of the United States of inestimable value, one Congressman thinks it will be too expensive, another is afraid he can see a monopoly on the part of the profession which might injure some of the pathies some of his friends are interested in. Is it not better that all the pathies be wiped off the slate than that the lives of her citizens be jeopardized? Is anything too expensive that will preserve the health and lives of the people? Sanitation has made it possible to live in the Philippines with perfect safety. Sanitation has made it possible to live in Cuba and Porto Rico and has eliminated the danger of yellow-fever in the Southern states. Sanitation has made it possible for the United States to build the Panama Canal, without which it could never have been built and yet a Bureau of Health of the United States would be too expensive. What do you think of it?

When I left Manila I felt that the United States had far surpassed in twelve years, in a sanitary way, what England has accomplished in Egypt and India during all the years of her occupancy. What we have said of sanitation may be said with equal truth of the educational advantages offered.

Our stay at Manila was one round of interest and pleasure. The Governor gave us a reception, where we had everything we could possibly desire to eat, drink, and smoke.

We left on the afternoon of December 21st amid a perfect din of cheering, the blowing of whistles, and the playing of bands; and we were followed away out into the bay for miles by crowded boats with bands of music, and everybody cheered till hoarse.

We have said adieu to the Philippines, and now for China, where we arrived at Hong Kong on December 23d. The harbor here is well fortified by the English. You enter through a long narrow arm of the sea for miles with high bluffs on either side which rise directly up from the sea. The town is located on the side and top of one of these hills, very much as Duluth is located. They have a tram-car, run by cable, on which we were taken to the top of the hill, from which we walked to one of the highest peaks, which was said to be 2,000 feet above sea-level. From here we got a magnificent view of the harbor and town. The English have some elegant residences, very good hotels, and business blocks. Hong Kong is more like an English than a Chinese town. On Christmas morning we left the Cleveland at 5 o'clock for a trip up the Pearl River to Canton. It was cool

enough to require light overcoats. The country along the river looked like a fertile farming country well cultivated. Canton is the most wonderful place I ever saw, a city of several million population with streets from six to eight feet wide, so narrow that no wheeled vehicle passes along them. All articles of commerce are carried in and out of these streets on the heads or backs of the people. We were carried through the streets in chairs. Some places the streets were so narrow it was found difficult to turn a corner. These streets were crowded with human beings. The stores or shops were all open to the street, so that you might, if you desired, pick goods off the shelves as you pass along. We saw silk weaving, jade cutting, feather work, and ivory carving. We visited the Temple of 500 Buddhas, the Water Clock, Temple of Medicine or Confucius, and execution ground. The latter place I was much interested in, as I was also in the executioner. The ground is an open space between two streets, of, I should judge, from 20 to 25 feet wide. The day before I was there some of our party saw seven bodies lying on the ground that had been beheaded. I asked the old executioner how many heads he had cut off, and he said about 5,000. I handled his sword and was convinced that he could cut a head off at one blow. He said he got fifty cents if he cut the head off at one blow, if not he got only fifteen or twenty cents. I asked the guide what crimes were punished by beheading. He said murder and river piracy.

The Chinese are a great people. No one can visit China and other Oriental countries and not be convinced of that fact. Whenever anything is to be done they are there to do it, whether it be the most menial labor or to fill responsible positions in banks or other financial institutions.

I had no opportunity of visiting any of their medical institutions or making any study of their sanitary provisions. At a meeting of our travelers club on board the Cleveland a minister made the statement, and gave his authority, that 90 per cent of the children die in infancy, which he attributed to their religious belief. I did not believe this statement, but had no way of disproving it. I asked him, however, if that were true, whether it was not possibly due to ignorance in feeding the children,—the same as was shown in the Philippines. This he apparently did not want to acknowledge.

On the 26th of December we bid good-by to China and were soon on our way to Japan,

where we arrived at our first stop (Nagasaki) on December 29th. We spent fifteen days in Japan and visited seven cities. Our boat was in three harbors, Nagasaki, Kobe, and Yokohama, and from our first stopping-place until we left Japan, our reception was one great ovation. The streets were lined with thousands and thousands of people like the streets of Minneapolis on circus day. Great arches were built over the streets on which would be the word "Welcome." Every place you could look, American and Japanese flags were flying. Men, women, and children were waving flags and cheering and shouting their banzas. Committees of prominent citizens met us at each city, and speeches of welcome were made. In each harbor we were greeted with the shooting of the most wonderful fireworks you ever saw which sounded like the booming of cannon. To tell all we saw in Japan would be impossible in an article of this kind, so I shall confine myself to a few interesting features of our visit.

At Nagasaki Dr. Bryant and I took rikishas and went out three miles to visit a medical college and hospital. It was during the holiday vacation, so we saw only a few of the students. A young physician, who spoke good English, showed us around. Their buildings are low, one-story, wooden buildings. The equipment, while not so elaborate as in our medical schools, was, as we judged, sufficient to do good work. Their anatomical, physiological, pathological and chemical laboratories were all fairly well equipped. Some anatomical specimens prepared by students showed careful and painstaking work. The hospital was a charity hospital, but everything was scrupulously clean. We were furnished with a sort of cloth sock to pull on over our shoes before entering. We did not see any surgery done, nor did we see but very few patients. We saw wards with empty beds. The beds are iron beds similar to ours, but instead of mattresses they have mats. In some wards the mats were on the floor, and there were no beds. This is not an inconvenience to the patient, as it is the way they are accustomed to sleeping in their homes. Through the kindness of Dr. W. J. Mayo I was given a letter of introduction to Baron Takagi, ex-Surgeon-General of the Japanese Navy. He was Surgeon-General during the Russo-Japanese war. I found him a very fine gentleman. He lives in Tokio. He has a private hospital and is connected with one of their medical colleges, which has connected with it a large charity hospital. With the Baron's

permission I took with me eight doctors whom I had met on the Cleveland, to visit the hospitals and medical college. The Baron had invited to meet with us ten surgeons of Tokio. Of these there was one viscount, also an ex-surgeon-general, three barons, three naval surgeons, and the others were prominent local surgeons. All could speak English except three, and they spoke German. He showed us all through the hospital from the laundry up. Here we saw some patients in the obstetric ward, lying on mats on the floor. The Baron explained that the mats were much preferred to beds. We asked him if the patients were given meat. He said sometimes, not always. He said it was expensive; that is, it taught them expensive habits, which they could not afford to indulge in at home. The most of the buildings here were two-story frame buildings and absolutely clean. The college was in session. There were five hundred students in attendance. These students agreed, when entering the college, that they would not smoke nor use intoxicating drinks while studying medicine. So there was no spitting nor cigar or cigarette stumps to be seen anywhere about the building. The laboratories were well equipped. They were especially proud of their anatomical laboratory. They were taught largely in English. The library was very well stocked, and most of the books and magazines were English. The Journal of the American Medical Association was on file, as was also The American Journal of Obstetrics and Diseases of Women and Children. The students were all taken into their gymnasium, and I was introduced and asked to talk to them. They then marched out on the ground, and went through a military drill for our benefit. After awhile they formed a hollow square and we were taken into this square, the Baron and his colleagues taking off their hats. The Baron said three banzas for the Americans, which were given with a will. The Baron had made arrangements for our entertainment at luncheon at the famous Maple Leaf Club, known all over Japan and probably all over the world. To this club we were now taken. We were met at the entrance by Japanese girls, who took our hats, coats, and shoes and furnished us with slippers, which they helped us get on. We passed up stairs to the dining-room and sat around the wall on cushions on the floor. We were arranged so that the three Japanese who could speak German and not English sat beside three of our men who could speak German. Each one had his little Japanese girl as waitress. We were given sagie to drink in little china cups as hot as we could drink it. The lunch was served in courses,

and all was eaten with chop-sticks. Everything served was good and looked appetizing. There had been provided for our amusement Geisha girls who sang and danced and a slight-of-hand performer, who did some wonderful tricks, one of which I may be pardoned for mentioning. He took a piece of rice dough and after kneading it, he stuck a blow-pipe into the side of it and blew it up until he had quite a balloon. He took out his blow-pipe, put his hand into his balloon, and drew out a large doll baby, which he hung to a wire stretched across the room, and taking hold of something at the head of the doll he gave a quick pull when there was a report like a fire-cracker, and an American and Japanese flag unfurled hanging to the wire. When we had finished our lunch the Baron said in America when you drink to the health of your guests you all stand up and drink at once, but in Japan we don't do it that way, the host goes around and drinks with each guest, and so he did. He then called for speeches from each guest; and, taking it all in all, it was the most unique and most enjoyable luncheon I was ever partaker of. Everything that was said and done was only what a perfect gentleman would say and do.

To illustrate what Japan is doing in a sanitary way, I will tell you what is done in one of her largest cities, Osaka. Osaka is a city of probably 600,000 inhabitants. There are four public and fifty private hospitals in this city. There are 916 doctors, 218 pharmacists, 535 midwives, and 345 nurses registered in the city. The private hospitals have accommodations for 22,403 in-patients and 172,411 out-patients. There are in the city two hygienic laboratories,—the Osaka Hygienic Laboratory and the Municipal Hygienic Laboratory. The former, which is at Hachi-kenya-machi, Higashi-Ku, belongs to the Home Department. In compliance with the request of the public, analytical and microscopic examination is conducted there of drugs and medicines, food, chemical articles, and substances relating to law proceedings, while in the latter, which is at Awaboridori, 3-chomi, Nishi-Ku, and belongs to the municipality, similar examinations are conducted concerning such important matters as prevention of infectious diseases, the quality of water, etc.

The sanitary section is one of the most important departments of the city office. In co-operation with the police, it takes charge of such matters as the prevention of contagious diseases, the protection of the public health, and all other sanitary affairs. In addition to this, each avenue of the city has a sanitary association of its

own, the chief of the association and its councilors being elected by the residents from among themselves for the purpose of maintaining satisfactory sanitary conditions, and these associations assist the authorities in carrying out sanitary matters. There are no fewer than 1,632 of these associations in the city.

In 1897 the city appointed inspectors in all the wards of the city, their duty being the practical supervision of the scavenging of the city. Some time afterwards the city was divided into eight sanitary sections, superintendents being appointed for each. Since that time scavengers call at every house daily, taking away all rubbish and refuse. A thorough cleaning of all the houses is carried out under the supervision of the inspectors from time to time. The extent of this work may be judged from the fact that during one year 1,188,006 pounds of rubbish and 4,717,277 pounds of mud were collected from 288,243 houses. The rubbish is cremated and the output sold. The municipality has been manufacturing manure from the rubbish since 1907, selling it to the public at a low price.

With regard to public conveniences, there are over four hundred in different parts of the city each being fitted with electric lights. They are properly attended to by a large staff of inspectors and scavengers. I have quoted this from a hand-book issued by the Osaka municipal office. It shows a carefully prepared plan of caring for the public health. A visit to any part of the city will convince anyone that the plan is carried out. Physicians are criticised by the press and public in the United States for not accomplishing during the Spanish-American war what the Japanese physicians did in the Russo-Japanese war. In my judgment the criticism is unjust. If the American Government gave its sanitary officers the same power the Japanese authorities give their sanitary officers, the same result would be accomplished.

In Tokio we were given a great reception in their best theatre, and addresses of welcome were delivered by the mayor and Baron Shibusawa in which were expressed the most friendly

feelings for Americans. At Osakis we were welcomed by the editor of one of the newspapers, who was also a member of parliament. He gave each passenger a handsome souvenir book and a bunch of flowers. They express their gratitude to Americans and to Commodore Perry for opening their eyes and starting them on the highway of progress. They express their gratitude to us for the introduction into Japan of the potato and the apple. With this kind of a reception in the seven chief cities of Japan, it would take more than yellow journalism to convince the 650 passengers of the *Cleveland* that the Japanese are looking for trouble with the United States.

On January 13th we left Japan with nothing but the most pleasing recollections of our visit, and turned our prow homeward. Our next stop was to be at one of our own possessions, Honolulu. At 6 A. M. on January 23d we arrived at the quarantine station. After medical inspection we sailed into the dock and were landed. This was the third place only since leaving home that we were landed at a dock. The other two were Naples and Manila. I need say little of the Hawaiian Islands. I can only add my testimony to that of many others that it is a delightful place to visit in the winter time. We were given a very flattering reception, as was only natural where there were so many Americans to welcome us.

On January 23d we sat on the roof-garden of Young's hotel and listened to the sweetest, most entrancing music I ever heard. It was given by a band of natives. Everything about Honolulu is beautiful. Its trees, shrubs, flowers, yards, gardens, dwellings, hotels, and business-blocks—all make it one of the prettiest places seen. In the evening of January 24th we sailed for San Francisco, where we arrived in the morning of January 31st and ended our trip, except the railroad ride from San Francisco home.

I have nothing but praise for the way the trip was conducted and can truthfully say that the Clarks fulfilled every promise made.

TUBERCULOSIS: ITS ORIGIN AND HOW TO PREVENT IT

By WM. HAMBRÖER, M. D.

EDEN VALLEY, MINN.

Physician to Eden Valley Sanatorium

So much has been said and written on this subject that it has become somewhat stale. Of course every physician knows the theory of leucocytes and their effort to devour the germs

(phagocytosis), a fight that is continually in progress for the mastery of the field; so I will not touch upon that point at all.

But what is the principal cause of tubercu-

losis? Where does it mainly originate? Theories are legion, and still if we sift them all down to actual facts and apply good common-sense reason, we are still compelled to do a considerable amount of guessing.

It is simple to understand why, when one member of a family dies of consumption, several others of the same family will die of the same disease although they come from strong, healthy parents. Of course, one has given it to the other; one has infected the other. It is like having one diseased apple among a barrel full, which, if not taken care of or removed, will cause many others to become infected and decay. So it is readily understood why often several members of a family succumb to tuberculosis. But where can we find the cause when there has been no possibility of infection and also the parents and ancestors are of healthy and vigorous stock?

If we look up the records of such great experimenters and scientists as Garter, Bartel, Washburn, Eber, Calmette, and others, also some of the scientists of our Bureau of Animal Industry, the latter's efforts directed principally toward the investigation of the bovine type of tuberculosis, we find plenty of food for reflection; indeed, we find something to think about. Their experiments have shown that bovine *T. bacilli* are readily converted into human *T. bacilli* and that they become extremely virulent when introduced into apes or monkeys, subjects which apparently are to some extent related to man. They have further demonstrated that *T. bacilli* introduced in a healthy digestive tract of adults, have passed through the intestines without affecting them, have passed through the mucosa and the mesenteric glands, and in a short time appeared in the thoracic duct and vena cava, and soon were found in the lungs.

That this is the most frequent mode of infection, indeed much more frequent than the former supposed theory of inhalation of bacilli-loaded dust directly into the lungs, etc., is shown by the fact that in the adult most all primary lesions are found in the apices of the lungs, in the capillary network, but very rarely in and from the bronchial side. Still in youth, and in the early life it is somewhat different. In such it has been found that when the *T. bacilli* are introduced into the intestines they will not readily pass through the mesenteric glands, but will mostly cause primary intestinal tuberculosis, a very slow, progressive type. Absolute proof of that has been furnished us by Aufrecht, Jensen, Kohler, and others, who have demonstrated that

out of 300 children between the ages of 1 and 16 years that died of various diseases, 47 of them on autopsy were found to be affected with primary intestinal tuberculosis. That would be about 16 per cent, which certainly shows plainly that tuberculosis is not a very rare disease among children. May we not find therein the cause for the delicate and weak condition of some children who are so apt to be taken off by consumption shortly after the period when they have entered manhood or womanhood? Such is especially true of many city-reared children, children that have largely been reared on raw dairy milk.

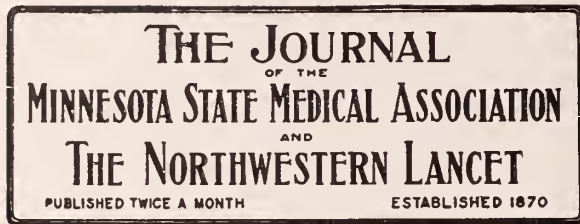
But how about raw milk? De Jong, Orth, and others have demonstrated that three out of ten dairy cows, although they appeared healthy and were in good flesh, were tuberculous and frequently passed *T. bacilli* with their milk, and most all passed *T. bacilli* with their feces. Of country cows about 11 per cent were tuberculous. Furthermore, von Behring, who is one of the best recognized authorities, declares that the bovine *T. bacilli* are generally more virulent than the human type and therefore much more dangerous.

Considering all that, also that the bovine bacilli retain their vitality in milk from 5 to 12 days, and as Dawson, Brors, and others have demonstrated that bacilli taken from butter after ninety days, have produced tuberculosis in guinea-pigs when inoculated with it, we, as physicians and guardians of the public health, should make it our duty to instruct people that raw milk should never be brought on the table, or be consumed in its raw state. Furthermore, in view of the great percentage of intestinal tuberculosis among children, as many of our best men have demonstrated, we can render only one verdict, and that is, that raw milk should never be fed to nursing babies and small children. But what is the remedy for that? Why, boil all the milk as soon as you get it and before using it. It will not only improve the taste, but milk when boiled will keep sweet twice as long as raw milk.

The theory that milk when boiled will cause constipation, is all nonsense. After a few days' use the system will adapt itself to it, and no more constipation will follow.

The writer, ever since he took up the special study of tuberculosis, which was over five years ago, has never permitted raw milk on his table, and has never experienced any constipating effect therefrom.

So, I again most earnestly say: Protect your children and protect yourself and banish raw milk as an article of food.



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NATIONAL WAR ON TUBERCULOSIS

The National Association for the Study and Prevention of Tuberculosis reports that by May 1, 1911, 35,000 beds will be provided for tuberculosis patients. Nearly every state is interested in the movement, and innumerable societies are promoting the educational side of the question. New York has 4,576 beds, Massachusetts 2,403 beds, Pennsylvania 2,347 beds, Colorado 1,489, and New Mexico 1,104 beds.

The only states which provide no beds for the plague victims are Alabama, Idaho, Montana, Nevada, Oklahoma, Wyoming, and Utah. These states have a combined population of 5,000,000. Minnesota has an active organization in its State Association, and the cities and counties are rapidly providing beds for its consumptives. The State Sanatorium has done good work and Hennepin, Ramsey, and St. Louis counties are already maintaining sanatoriums.

The State Association, which held its meeting in St. Paul the week of July 3d, shows a prosperity that is gratifying and presented a series of papers that are highly educational.

This general movement has had no setback, but is growing in volume and force.

IMMORALITY IN PUBLIC SCHOOLS

For some time past the unpleasant fact that gross immorality is prevalent in our public high-schools suggests the advisability of a more careful inquiry into the situation. It also presents one of the strongest arguments in favor of medical inspection in public schools.

That the evil is known to many of the officials is unquestioned, but how to meet it and how to prevent it is a serious problem. From time to time the attention of high-school superintendents has been called to the existence of loose moral conditions in their schools, and some effort has been made to meet the situation. One evidence of this is the abolishment of fraternities or high-school societies. This does not mean a condemnation of all fraternities, but the prevention of societies which may lead to evil associations.

Shocking stories are told of some of the high-school pupils. In one high-school in Minneapolis eighteen cases of gonorrhea were reported, and not infrequently high-school boys are under the care of the genito-urinary surgeon. It is possible, of course, that the disease is contracted at red-light resorts, but it is equally probable that the infection may be spread among high-school girls if stories of their behavior is reliable. It is related of one woman, a mother, that she told her husband not to give their son five dollars to pay for what he thought he needed and was entitled to, for, she said, there was an abundance of material in the high-school free!

The boys of today are too far advanced in their knowledge of sex-life, and they are too eager to try their powers. It is shameful to know that some boys rent down-town rooms where high-school girls meet them for intercourse, and it is disgraceful to believe that this traffic is carried on among "sets" in the schools. One boy told his teacher that he had learned his lesson and had begun to realize the enormity of the situation, and because his sister was growing up he and his family were determined to protect her from temptation. From one of our benevolent institutions a child born of high-school children found a home, which is a forceful bit of evidence that cannot be refuted.

This condition of affairs does not exist in Minneapolis alone: it probably extends over a wide territory, but in most places the evidence of it is concealed.

So far no adequate remedy has been applied,

and the truth of the matter will not be discovered until medical inspection is compulsory.

Dr. Francis E. Clark makes the statement, startling as it may seem, that girls are less steadfast than boys and that their conscience is more plastic, that they are more vulgar, less respectful, and more indifferent to evil than boys!

Where lies the blame? There is only one answer: the careless indifference and shortsightedness of parents.

Pregnant school girls and infected boys are numerous enough to demand a painstaking investigation into public-school morals. The danger from infected pupils cannot be overestimated. Every physician knows what a gonorrhea infection means to both boys and girls, and the disease and destruction that follow is appalling.

Out of the entire population of the high-schools there may be a comparatively few cases of immorality or infection, but no one can say how far it may lead. It would be an easy matter to determine the number of cases of disease, and a comparatively easy matter to eradicate it, if taken in time, but who cares? Who will do the investigating? Can it be left to the Board of Education or to the Supervisor of Gymnastics, with any assurance that good will be accomplished? The only method is inspection by trained physicians. This means the presentation of the subject before the Board of Tax Levy to insure an adequate sum for medical supervision.

MORE MALPRACTICE FAILURES

Minnesota has recorded two more malpractice suits in which the plaintiffs have failed to sustain their complaints.

The first one occurred in Minneapolis. Dr. Hirshfield and Dr. Van Wilcox were sued three years after the alleged malpractice. The patient, a child, had membranous croup when a single culture failed to show the presence of diphtheria. An intubation was performed successfully, but on attempting to remove the inner tube it slipped from the instrument of the operator and was swallowed by the patient. A tracheotomy was performed by an emergency operation, and the child recovered, with the exception of a slight hoarseness. The case came to trial and the jury returned a verdict for the defendants with the award of the full amount of the physicians' bill with costs.

The second case occurred in the practice of Dr. F. R. Weiser, of Windom, Minn. The plain-

tiff, R. A. Van Nest, had a daughter sick with scarlet fever, which was complicated by an infection in the pleural cavity. The girl was critically ill for a number of weeks and was saved from death by the skill and care of the physician. When he presented his bill payment was refused, and on suing for the same a counter-claim for gross malpractice was filed. The Minnesota Defense Department of the Minnesota State Medical Association took up the case, and at once the impossibility of the plaintiff's claim was demonstrated. Rather than have the case go to trial the attorney for the plaintiff withdrew the baseless claim. The stipulation printed below is very strong evidence of the folly and the untruthfulness of the suit. The plaintiff paid the doctor's bill, together with all costs and proceedings other than what was paid the attorney for the State Defense Department.

State of Minnesota, County of Cottonwood. In District Court, Thirteenth Judicial District.

F. R. WEISER,

Plaintiff,

vs.

ROBERT A. VAN NEST,

Defendant.

It is hereby stipulated and agreed by and between the plaintiff and defendant in the above entitled action and their respective attorneys thereto that said action is settled for a valuable consideration paid to the plaintiff by the defendant in money as well as by the fact that the answer filed by defendant herein is and the same is hereby withdrawn as an answer in said case and from the files of said court, and that the affidavit made by the defendant in support of his motion for a continuance of said case be and the same is hereby withdrawn from said case and from the files of said court, it being admitted that there were no grounds to support the charges contained in said answer and that said action and all matters named in said complaint and in said answer are hereby settled with prejudice against the plaintiff and defendant ever again urging any of the matters contained in their respective pleadings as a cause of action against the other and it is agreed that said action be dismissed by the court with prejudice against the plaintiff to ever renew the same and with prejudice against the defendant to ever bring any action on the counter-claim mentioned in his answer in said action.

Dated this 6th day of June, A. D. 1910.

F. R. WEISER,

Plaintiff,

D. A. STUART,

Attorney for Plaintiff.

R. A. VAN NEST,

Defendant.

W. BURT,

Attorney for Defendant.

Here are two cases that ought to be given publicity and expert criticism. The attorneys for the plaintiff as well as the plaintiffs themselves should be scored to the limit short of things libelous. Both suits show the outrageousness of unfounded attacks upon physicians who have tried to do their work conscientiously and sincerely.

Any man who is engaged in the practice of medicine is liable to be attacked by unscrupulous people who seek money and notoriety. No matter how well the work may be performed by the doctor, there is someone lurking behind a screen who thinks there is a chance to evade the payment of a legitimate bill or to extort money by blackmailing schemes.

Every suit won by the physician or a defense association will do much to discourage these unrighteous suits.

It is difficult to understand how an attorney will lend himself to this kind of shyster practice. If he goes into the case blindly or without consulting a medical man on the merits of the case the imposition is greater, but if he has the usual common sense allotted to most lawyers and then continues his persecutory measures, he should be shunned by everyone. The Minnesota Defense has already proven its worth and will doubtless be able to prevent many other suits of the character of those outlined above.

DEATH OF DR. CHARLES M. HEWITT

Physicians and laymen in the State of Minnesota express their sympathy to the family of the late Dr. Charles M. Hewitt.

For nearly forty-five years Dr. Hewitt has been a prominent physician and citizen in Minnesota, and for twenty-five years he was the active and efficient executive officer of the Minnesota State Board of Health.

He began this work in 1872, and in connection with his duties as health officer he was the non-resident professor of public health in the University of Minnesota. His professorship was probably the first of its kind in any school in America, and he did much to teach the undergraduates the value and need of personal and public hygiene. During the years that he was the executive officer of the Board he was the president of the American Public Health Association and an associate of the Society of Medical Officers of Health of England and of the Societe d'Hygiene of France. It was he who converted the physicians of Minnesota to the theory and the fact that diphtheria is a communicable

disease, and for many years he maintained and personally operated a small laboratory for investigations in sanitary principles.

During the Civil War he was looked upon as "the best regimental surgeon in the Army of the Potomac," and he gained high honors in the service.

He continued the practice of surgery and medicine in Red Wing and was widely known for his skill and good advice.

Dr. Hewitt was born in 1836 and until within a short time before his death at the age of 74, he was one of the most active, energetic, and enthusiastic physicians in the Northwest.

Dr. Hewitt was a man of strong convictions and positive opinions, and for this reason he was a great factor in the development of public-health measures in Minnesota.

THE NATIONAL LEAGUE FOR MEDICAL FREEDOM

This organization, which has national headquarters in the Metropolitan Building in New York, has for its president Mr. B. O. Fowler of the "Arena" and the "Twentieth Century Magazine," and for its secretary, Paul Arthur Horsch, of Toledo, Ohio.

The object of this League is to circulate a bundle of literature denouncing the American Medical Association as a so-called "doctors' trust." They have entered the political field in Vermont and think they have persuaded the Republican convention that it is unwise to introduce into their platform a recommendation for the establishment of a department of public health.

The newspapers have taken the subject into their editorial columns, and the New York Herald is evidently the official organ of the League.

Unfortunately, the dissemination of this kind of literature carries with it the usual misleading statements. The one idea that the League is trying to impress upon the public mind is that the A. M. A. is a close corporation and is now trying to control the practice of medicine in the United States.

In order to further mislead the public the League is attempting to show that the so-called regulars will prevent any other form of practice to endure! They have succeeded in enlisting the Christian Scientists, the osteopaths, the chiropractics, the antivivisectionists, the antivaccinationists, and all other antis they can secure. They have also seduced some of the homeopaths, but

not all, as there are many who are quite able to take the broader viewpoint.

The League's forces are centered against the Owen bill on the ground that the creation of a department of public health would prevent any form of practice except that which is agreeable to the A. M. A. This argument is mere rot, and the patent medicine men, the antipure food and antipure drug men, and the other antis are wilfully misleading the public.

The Owen bill means to establish federal health measures under one department with the various bureaus that are needed for uniform health work. It does not in any way seek to limit the treatment of diseases to any sect, but it does hope to benefit the public and to prevent the spread of preventable diseases. The result of the establishment of such a department would be that communicable diseases would be less prevalent and, a result, that doctors would have less to do.

If a department of health be established at Washington it will be largely educational, and if the people can be educated it is possible that many firms that live on the ill-gotten proceeds from the manufacture of vile nostrums and impure foods, may suffer financial loss. Hence their cry of "medical trusts" and this plea for "medical freedom." If ever there was medical freedom it is in this day and age, and the time must come when the quacking of the Charlatan and his impure and dishonest preying upon a too credulous public will cease.

Let us hope that all good doctors who practice medicine and who treat disease in a scientific and honorable way will rise to the occasion and exterminate the impostors who try to poison the public mind by their disgusting and unprofessional tactics.

There is good in many of the new and untried cults that will always prevail, and to stamp everything of this kind off the features of the earth is impossible, and not for one moment does the movement for a department of public health consider such an undertaking.

BOOK NOTICES

DISEASES OF THE EYE. By Geo. E. de Schweinitz, M. D., Professor of Ophthalmology in the University of Pennsylvania. Sixth Revised Edition. Octavo of 945 pages, 351 text illustrations, and 7 lithographic plates. Philadelphia and London: W. B. Saunders

Company, 1910. Cloth, \$5.00 net; half morocco, \$6.50 net.

The above standard text-book on ophthalmology by de Schweinitz, does not need any introduction to the medical profession, and the last sixth edition will be accepted and welcomed by medical students and teachers of ophthalmology as one of the most exhaustive, clearly expressed, and thoroughly systematized publications that are adapted to the needs of medical students.

The present edition has been thoroughly revised, portions of the former editions being entirely rewritten, and special paragraphs on the following subjects appear for the first time: "The Use of the Astigmatic Lens, or Crossed Cylinder"; "Obstetric Injuries of the Cornea"; "Posterior Scleritis"; "Cyanosis of the Retina"; "Atoxyl Amblyopia"; "Ocular Complications of Nasal Accessory Sinus Diseases"; "Intermittent Exophthalmos"; "Kuhnt-Szymanowski Operation for Ectropion"; "Galvanopuncture for Ectropion and Entropion (Ziegler)"; "Establishment of a Filtering Cicatrix (Hubert's Operation)"; "Combined Iridectomy and Sclerectomy (Lagrange's Operation)"; "Precorneal Idirotomy (Axenfeld)"; "V-shaped Iridotomy (Ziegler's Operation)"; "Smith's Operation for Removal of Cataract in the Capsule"; "Operations for Prosthesis in Cases of Cicatricial Orbit."

The chapter on retinoscopy is written by Dr. Edward Jackson; and Dr. Alexander Duane has reviewed the chapter on "Movements of the Eyeballs and Their Anomalies."

The volume is well illustrated and is recommended to both students and practitioners of medicine.

TEXT-BOOK OF DISEASE OF THE GENITO-URINARY ORGANS. By Edward L. Keyes, Jr., seven plates and 195 illustrations. D. Appleton & Co., New York and London.

This book comes to us as a clean-cut and up-to-date volume of nearly 1,000 pages. It deals with the various diseases coming under this special branch of medicine. It is gotten up in an admirable form and is well illustrated.

The author has taken a good stand in dropping the anatomical arrangement in the discussion of topics. The advances in diagnosis by the ureteral catheter and x-ray has led him to discuss separately inflammations of the upper urinary tract and stone.

He leads the students from the principles of urology to gonorrhea and prostatism and then to inflammation, stone, tubercle, and hydronephrosis. Many old-time methods of treatment have

been dropped, which many authors feel they must mention for the sake of completeness.

He shows no hesitancy in discussing the shortcomings of some leaders. This is especially true in his chapter on the pathology and treatment of strictures. It is easy to see that the author talks from experience. The Kollmann dilator is given its proper place in therapeutics, but the double taper-sound, where it can be used, is still the best means of urethral massage.

Cystoscopy deals with the lens-system, direct and indirect, and is most clearly presented. We think it would not be unkind to say that a fuller discussion of the simple method of direct cystoscopy (Elsner, Snell, etc.), such as is quite extensively used by many American leaders, would have been appreciated.

The vaccine and serum treatment is included in the therapeutics, giving the dosage and indications for its use.

The chapters on urethritis are to the point, and the writer goes into the minutiae in detail in the differential diagnosis, treatment, and the technic of irrigations, injections, and urethral instrumentation.

The consideration of syphilis—its course, etiology, pathology, diagnosis, and treatment—is especially concise and clear, and yet covers the field completely. The pros and cons of the injection-treatment are emphatically depicted, such as the danger and non-prohibition of acute mercurial poisoning from the injection of a single average dose occurring, as a rule, once in thirty or forty injections. Fat embolus occurs about once in one thousand cases.

The diseases of the kidneys, ureters, and bladder are fully discussed with special stress laid upon the consideration of pyelonephritis. The author has made us feel the importance of the ureteral catheter as one of the greatest diagnostic agents in diseases of these organs.

The closing chapters include the important genito-urinary operations, giving the surgical anatomy, technic, and surgery of the kidney, ureters, prostate, bladder, perineum, etc., lucidly and well illustrated.

We are free to say that this American textbook is complete and full of information, and well deserves a place upon every physician's desk as a reference and guide in the treatment of genito-urinary diseases.

NEWS ITEMS

Dr. B. S. Dearborn, of Minneapolis, will locate at Dunnell.

Dr. Guy Simpson has moved from Butte, Mont., to Dillon, Mont.

Dr. R. W. Stough has moved from Edgeley, N. D., to Beach, N. D.

Dr. A. C. Spooner, of Kalispell, Mont., has moved to Sidney, Mont.

Dr. F. A. Engstrom, of Battle Lake, is now located at Estherville, Iowa.

Dr. J. D. Budd, of Two Harbors, has gone to Europe for a pleasure trip.

Dr. L. E. Dougherty has given up work at Eveleth, and will seek a new location.

Dr. W. A. Lumley, formerly of Renville, is doing post-graduate work in Chicago.

Dr. A. J. Dohm, police surgeon of St. Paul, was married last month to Miss Anna Cody, of St. Paul.

Miss Nellie C. Hanson, of Rochester, has been appointed superintendent of the hospital at Montevideo.

Dr. Martin J. Taylor, of Janesville, died on July 5th. Dr. Taylor practiced in Minnesota nearly thirty years.

Dr. Henry C. Grover, of Rushford, died on July 4th at the age of 81. He practiced in Minnesota over forty years.

Improvements under way at the State Sanatorium at Walker will cost \$50,000. A building 104x34 with a wing 80x34 will be built.

Dr. Robert Earl, of St. Paul, was almost fatally injured in an automobile accident on July 4th. His machine had a collision with a street car.

Dr. Frank E. Detling, of Duluth, is just finishing a year's work as house surgeon in the Wells Eye Hospital of Philadelphia. He will soon resume his practice in Duluth.

Dr. Tolbert Watson, of Albany, was married on June 30th, to Miss Ella Reynolds, of Indianapolis, Ind. Dr. Watson graduated from the State University with the class of '08.

Dr. J. J. Ratcliffe, of Aitkin, has been appointed surgeon for the Soo line at that point,

and his hospital will be used by the road for cases that can be conveniently sent there.

Dr. Charles L. Gates, of Hancock, was killed by a railroad train at Benson last month. Dr. Gates has practiced in Minnesota nearly forty years, most of the time at Benson. For the past two years he practiced in Hancock.

Dr. A. S. Hamilton, of Minneapolis, and Drs. J. T. Christenson and H. P. Ritchie, of St. Paul, read papers before the Sioux Valley Medical Association of South Dakota, which met on June 28th and 29th at Sioux Falls, S. D.

Dr. Byron M. Caples, superintendent of the Waukesha (Wis.) Springs Sanitarium, was elected president of the Wisconsin State Medical Association at the annual meeting of the Association, held last month in Milwaukee.

The Blue Earth County Medical Society, at its June meeting, strongly advocated the building of a new detention hospital for Mankato to take the place of the old one, which the State Board of Health condemned and closed up. Drs. J. T. Christison and H. P. Ritchie, of St.

Dr. Charles M. Hewitt, of Red Wing, died on July 7th at the age of 74. Dr. Hewitt came to Red Wing at the close of the war, and at once took a prominent part in medical matters. He

was secretary of the State Board of Health for twenty-five years.

Dr. C. P. Robbins, of Winona, has gone to Europe for several months study. He will take up diseases of the stomach under Prof. Ewald in Hamburg, diseases of the intestines under Adolph Schmidt in Berlin, and diseases of the heart and lungs under Prof. Von Neusser in Vienna. He will go also to Berne for laboratory work under Prof. Sahle, and to London and Paris.

ADDITIONAL NAMES FOR THE ROSTER

The following additional names of members of the Minnesota State Medical Association have been received, and are to be added to the Roster:

Abbott, E. J. St. Paul
Christison, T. J. St. Paul
Eusterman, G. B. Rochester
Gaines, E. C. Buffalo Lake
Kirkwood, S. M. St. Paul
McKeon, Owen. St. Paul
Mellenthin, M. A. Janesville
Mikkelsen, M. Wells
Moynihan, T. J. St. Paul
Reynolds, M. St. Paul
Stenberg, Oscar. North Branch
Witham, C. A. Minneapolis

DEATHS REPORTED TO THE STATE BOARD OF HEALTH OF MINNESOTA FOR THE MONTH OF APRIL, 1910

REPORTED FROM STATE INSTITUTIONS FOR MONTH OF APRIL, 1910

STATE INSTITUTIONS.	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Acute Anterior Polio Myelitis	Typhoid Fever	Diarrheal Diseases of Children	Cancer	Eruptive Septicemia
Fergus Falls, Hospital for Insane.....	2	1													
Rochester, Hospital for Insane.....	10														
St. Peter, Hospital for Insane.....	5	1													
Anoka, Asylum	3	1													
Hastings, Asylum	1														
Faribault, School for Deaf.....															
Faribault, School for Blind.....															
Faribault, School for Feeble Minded.....	7	5				1									
Owatonna, School for Dependents.....															
Stillwater, State Prison.....	1	1													
St. Cloud, State Reformatory.....															
Red Wing, State Training School.....															
Minneapolis, Soldiers' Home.....	8		1											1	
Totals	34	9	1			1						1		1	

REPORTED FROM 72 CITIES HAVING A POPULATION OF 1,000 OR UPWARD
FOR THE MONTH OF APRIL, 1910

CITIES.	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Acute Anterior Polio Myelitis	Typhoid Fever	Diarrheal Diseases of Children	Cancer	Puerperal Septicemia
Albert Lea	4,500	5,657	3														
Aneka	3,769	4,053	8		2	2											
Austin	5,474	6,489	4			1		1									
Barnesville	1,326	1,566	0														
Bemidji	2,183	3,800	13	1													
Blue Earth	2,900	2,364	3					2									
Brainerd	7,524	8,15	10		1	4									1		
Chaska	2,165	2,085	*														
Chatfield	1,426	1,300	1													1	
Clequet	3,074	6,117	5												1		
Crookston	5,359	6,794	11						1				1			1	
Detroit	2,060	2,149	3													1	
Duluth	52,968	64,942	76	8	1	10			3	2				1	1	6	
East Grand Forks	2,077	2,48	*														
Ely	3,712	4,045	9	1		1											
Eveleth	2,752	5,332	13	2	1	2											
Faribault	7,868	8,279	7	2		1											
Fairmont	3,440	2,955	0														
Fergus Falls	6,072	6,692	6														
Granite Falls	1,214	1,340	*														
Hastings	3,811	3,810	2	1												1	
Hutchinson	2,495	2,489	4	1												1	
Jordan	1,270	1,311	1														
Lake City	2,744	2,877	1	1													
Litchfield	2,280	2,415	2			1											
Little Falls	5,774	5,856	8	2	1									1			
Luverne	2,223	2,272	1														
Le Sueur	1,937	1,842	4	1					1								
Madison	1,336	1,604	0														
Mankato	10,559	10,996	12	2	2	1										1	
Marshall	2,088	2,243	1														
Melrose	1,768	2,151	2														
Minneapolis	202,718	261,974	316	37	3	29	1	9	1	14				27	8	11	3
Montgomery	979	1,281	0														
Montevideo	2,146	2,595	2		1												
Moorhead	3,730	4,794	9	2					1	1				1			
Morris	1,934	2,003	1													1	
New Prague	1,228	1,419	2		1												
New Ulm	5,403	5,720	7						3								
Northfield	3,210	3,438	9												2	2	
Ortenville	1,247	1,612	1														
Owatonna	5,561	5,651	3													1	
Pipestone	2,536	2,885	3			1										1	
Red Lake Falls	1,885	1,797	1														
Red Wing	7,525	8,149	9	2		1											
Redwood Falls	1,661	1,806	3	2													
Renville	1,075	1,229	0														
Recheater	6,843	7,233	21	2		2										2	
Rushford	1,100	1,133	4	1												2	
St. Charles	1,304	1,238	3														
St. Cloud	8,663	9,422	10	2												1	
St. James	2,607	2,320	0														
St. Paul	163,632	197,323	225	27	3	21	2	19	14	7			1	2	5	10	2
St. Peter	4,302	4,514	2														
Sauk Centre	2,220	2,463	2	1													
Shakepee	2,046	2,069	3	1													
Sleepy Eye	2,046	2,312	3	2													
South St. Paul	2,322	3,458	6			1										2	
Stillwater	12,318	12,435	12	2		1								1		1	
Thief River Falls	1,819	3,502	6	1		1				3							
Tewar	1,366	1,340	2	1		1											
Tracy	1,911	2,015	2														
Virginia	2,962	6,056	15	2		3									3		
Wabasha	2,528	2,619	5	3												1	
Warren	1,276	1,640	2													1	
Waseca	3,103	2,838	1			1											
Waterville	1,260	1,383	1														
West St. Paul	1,830	2,100	1			1											
Willmar	3,409	4,040	2														
Windem	1,944	1,884	4		1					3							
Winona	19,714	20,334	17	3		1			1								
Worthington	2,386	2,276	2							1							

*No report received. Health officer not doing his duty.

REPORTED FROM 65 VILLAGES HAVING A POPULATION OF 1,000 OR UPWARDS
FOR THE MONTH OF APRIL, 1910

VILLAGES.	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Acute Anterior Polio Myelitis	Typhoid Fever	Diarrheal Diseases of Children	Cancer	Periperal Septicemia
Ada	1,253	1,515	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Adrian	1,258	1,184	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Aitkin	1,719	1,896	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Akeley		1,636	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Alexandria	2,681	3,051	3	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Appleton	1,184	1,321	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Belle Plaine	1,121	1,301	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Benson	1,525	1,766	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Breckenridge	1,282	1,850	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Buffalo	1,040	1,124	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Caledonia	1,175	1,405	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Canby	1,100	1,505	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cannon Falls	1,239	1,460	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cass Lake	546	1,062	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chisholm		4,231	10	1	0	1	0	0	0	0	0	0	0	0	0	0	0
Dawson	962	1,056	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delano	967	1,023	*	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fosston	864	1,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Frazee	1,000	1,146	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Glencoe	1,780	1,805	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Glenwood	1,116	1,718	3	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Graceville	856	1,032	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Grand Rapids	1,428	2,055	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hallock	805	1,014	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Hibbing	2,481	6,566	12	0	0	2	0	1	1	0	0	0	0	0	1	0	0
Jackson	1,756	1,776	2	0	0	1	0	0	0	0	0	0	0	0	0	1	0
Janesville	1,254	1,205	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kasson	1,112	1,049	3	1	0	2	0	0	0	0	0	0	0	0	0	0	0
Kenyon	1,202	1,252	3	0	0	1	0	0	0	0	1	0	0	0	1	0	0
Lake Crystal	1,215	1,231	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lanesboro	1,102	1,041	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Long Prairie	1,385	1,256	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Madelia	1,272	1,290	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Milaca	1,204	1,319	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mountain Lake	959	1,063	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
North Mankato	939	1,129	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
North St. Paul	1,110	1,400	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Olivia	970	1,019	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Osakis	917	1,056	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Park Rapids	1,313	1,719	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pelican Rapids	1,033	1,095	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Perham	1,182	1,366	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pine City	993	1,092	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Plainview	1,038	1,140	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Preston	1,278	1,320	4	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Princeton	1,319	1,704	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rush City	987	1,041	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rushford	1,062	1,040	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
St. Louis Park	1,325	1,491	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sandstone	1,189	1,589	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sauk Rapids	1,391	1,552	4	1	0	2	0	0	0	0	0	0	0	0	1	0	0
Scanlon		1,122	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
South Stillwater	1,422	1,572	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Springfield	1,511	1,546	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Spring Valley	1,770	1,573	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Staples	1,504	2,163	*	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Two Harbors	3,278	4,402	6	0	0	1	0	1	0	0	0	0	0	2	0	0	0
Wadena	1,520	1,868	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wells	2,017	1,814	*	0	0	0	0	0	0	0	0	0	0	0	0	0	0
West Minneapolis	2,250	2,530	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Wheaton	1,132	1,346	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
White Bear Lake	1,288	1,724	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Winnebago City	1,816	1,553	*	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Winthrop	813	1,031	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Zumbrota	1,119	1,129	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
State Institutions			43	9	1	0	0	1	0	0	0	0	0	1	0	0	0
Other parts of State	1,012,328	1,085,886	719	66	8	78	8	8	4	22	...	10	3	3	20	52	4
Total for State	1,751,395	1,979,658	1787	193	27	173	12	42	31	56	...	11	5	41	44	105	9

*No report received. Health officer not doing his duty.

7 Still births and premature births, not included in above totals.

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GLYCO-THYMOLINE IN GYNECOLOGICAL CONDITIONS, WITH PARTICULAR REFERENCE TO UTERO-VAGINAL CATARRH

A novel way of using Glyco-Thymoline for vaginal leucorrhea will be of interest. Obtain a few sea sponges of fine soft quality. Cleanse and boil. Draw a thread or cord through one end of same, saturate it with Glyco-Thymoline (full strength) previously placed in a small dish or cup, say half an ounce. The application of the tampon is best made by use of a Ferguson's speculum so placed as to expose or encircle the cervix uteri. With sponge filled with Glyco-Thymoline gently press through the speculum against the cervix and gradually withdraw speculum, patient being in lithotomy position with hips raised. If you wish, instruct the patient as to the method. Have her procure the sponges, also a glass piston formed vaginal syringe, half ounce or ounce capacity. Fill the syringe with the Glyco-Thymoline solution, insert into vagina, slowly pressing piston until syringe is emptied. Then insert a sponge tampon, previously saturated with Glyco-Thymoline (excess solution squeezed out). This is far superior to the cotton or wool tampon and can be outdrawn after twenty-four hours, washed and boiled and used again if desired.

The treatment of mucous surfaces is interesting because effectual. Intra-uterine treatment, however, is a very delicate piece of work and should never be undertaken except by an experienced physician and under favorable conditions. A few of these conditions must be induced by the operator.

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Third.—Application of the medicament (Glyco-Thymoline) by saturating gauze or proper material for the purpose and if necessary introduce a uterine tubular speculum and blunt pointed and forked applicator. It is not necessary that prongs should be long or sharp, but rather short and blunt and carefully passed through, carrying a narrow tape of gauze, single, carried to the fundus, then tufted in until cavity is lightly filled. Then with a syringe with fairly long beak passed through the speculum which is partially withdrawn or fully withdrawn, the Glyco-Thymoline can be forced into the packing until thorough saturation is procured. It should be removed in twenty-four to forty-eight hours and may be repeated once to four times a week as indicated. The sponge tampon is inserted when the uterine packing is removed.

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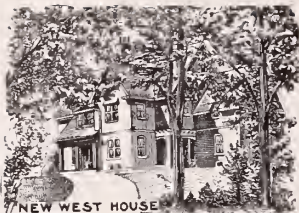
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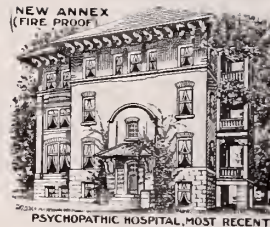
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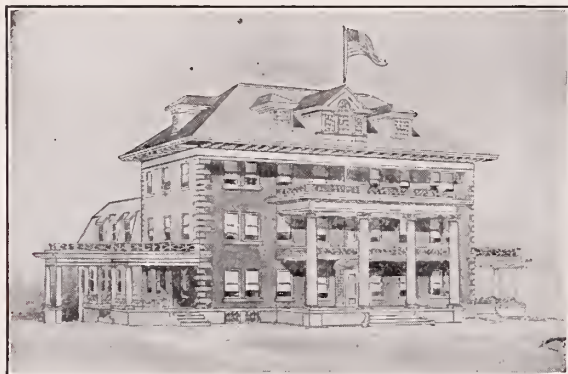
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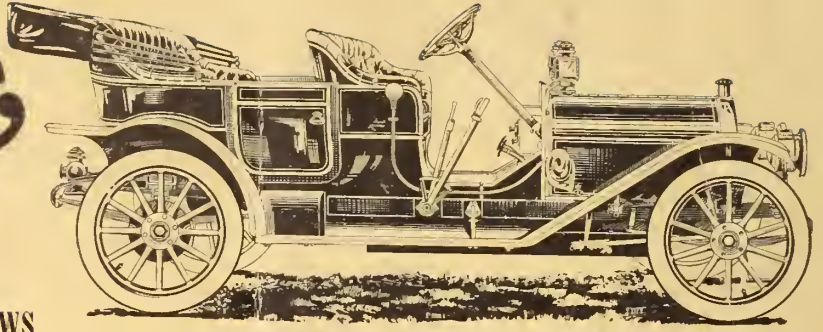
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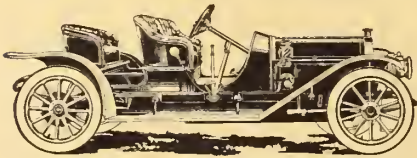


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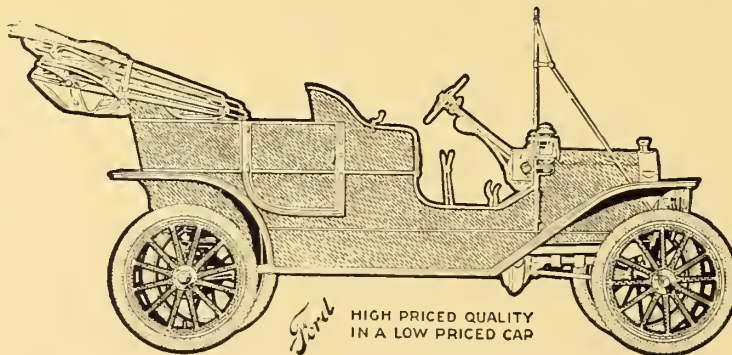
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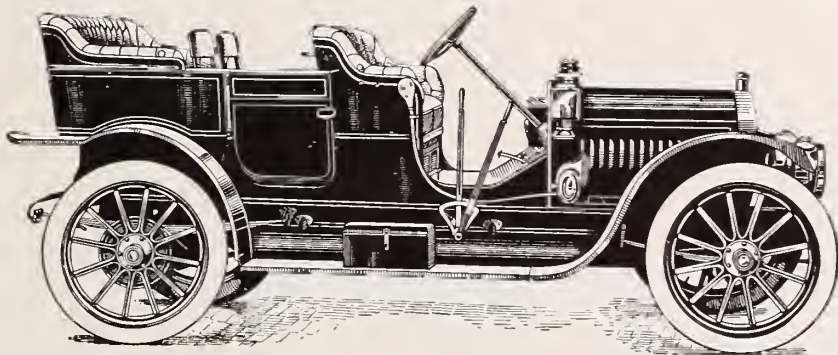
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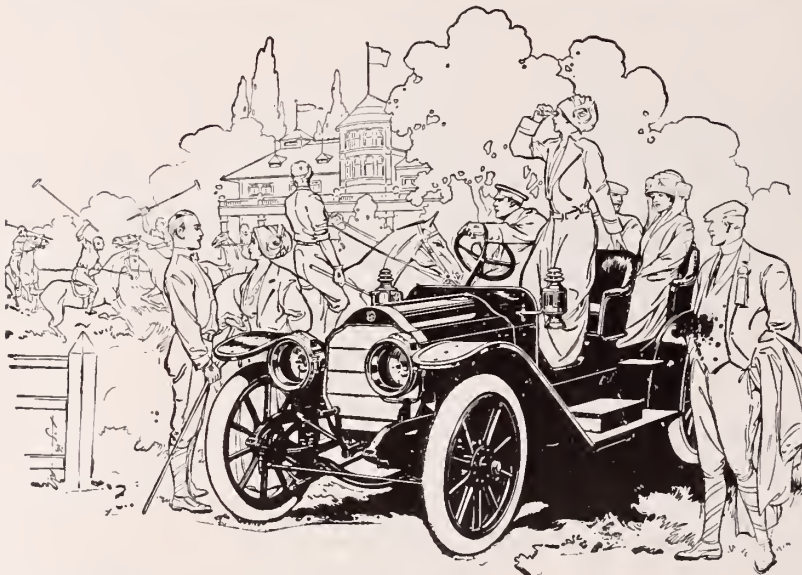


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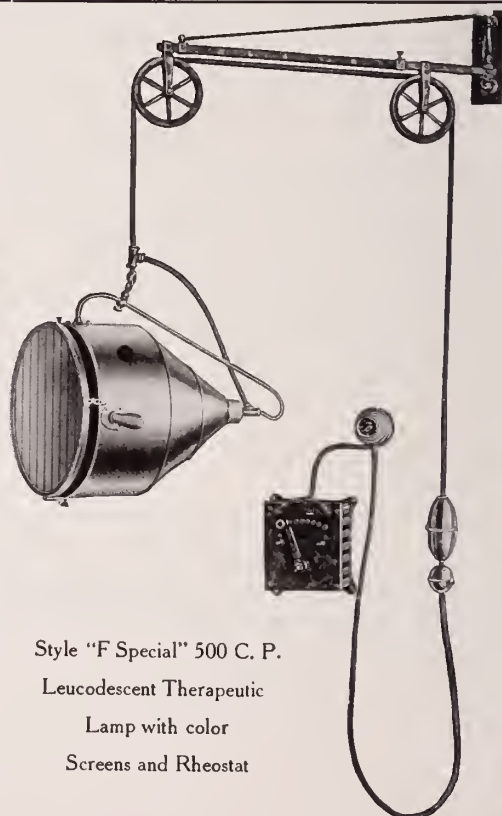
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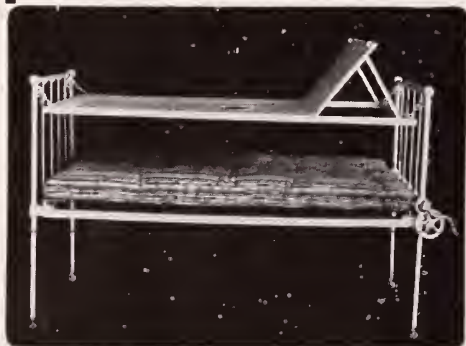
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THE JOURNAL OF THE MINNESOTA STATE MEDICAL ASSOCIATION AND THE NORTHWESTERN LANCET

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AUGUST 1, 1910

No. 15

DIAGNOSIS AND TREATMENT OF EPIDEMIC CEREBRO- SPINAL MENINGITIS

WITH SPECIAL REFERENCE TO THE USE OF FLEXNER'S ANTIMENINGITIS
SERUM*

BY S. MARX WHITE, B. S., M. D.

MINNEAPOLIS

I have had the opportunity to treat with Flexner's serum two cases of meningitis, proven by bacteriologic investigation at the Minnesota State Board of Health Laboratory to be due to *diplococcus intracellularis meningitidis* (Weichselbaum), and although these two cases in themselves are worth but little, when taken in connection with the results reported to Dr. Flexner from various parts of the world the value of these two cases becomes such that I consider them well worth reporting and discussing. I shall report the two cases first and then discuss diagnosis and treatment.

Case 1 occurred in the practice of Dr. J. I. Tibbetts, Wayzata, Minn. The patient, Wessie Day, age $3\frac{1}{2}$ years, is the second child of young parents who are in perfect health. The father is a marine engineer, strong and well. The mother has a nursing child, but is in good condition physically.

The patient was perfectly well and played as usual on Tuesday, March 2, and Wednesday, March 3, 1909. March 4, during the morning, he became rather listless, vomited, and had one loose movement of the bowels. Complained of pains in the head, elbows, and arms. Dr. Tibbetts saw him at this time and give small

divided doses of calomel. That evening the pulse was 90. The temperature was not taken. There was a slight retraction of the head and a petechial eruption over the chest, abdomen, back, and legs. Dr. Tibbetts described the eruption as consisting of small pinhead size, round or oval spots, of light purplish color and discrete. He estimated the number at about 200.

(The patient lived at the edge of town, there was no nurse, and we had to depend upon the visits of Dr. Tibbetts for records.)

March 5, 8 A. M. The pulse was 80, and the temperature 98.6° in the groin, the eruption fading slightly. The retraction of the head and spine was somewhat increased, the body being held stiff from the hips up, and the patient complained of considerable pain, was restless and fretful but conscious. That afternoon he complained of severe pain lasting about an hour. Dr. Tibbetts made a diagnosis of probable epidemic cerebrospinal meningitis and saw Dr. F. F. Wesbrook that afternoon, requesting that a positive diagnosis be made and Flexner's serum used if indicated. I saw the patient first at 9:30 P. M., March 5. Temperature, 99.6° ; pulse, 115. The child was excited but somewhat soporose, lying with the eyes half closed. He lay on the right side with head strongly retracted, the back bowed, and the erector spinæ muscles

*Read before the Minnesota Academy of Medicine.

standing out prominently on each side of the median line. He resisted attempts at movement and complained severely of pain in the head and limbs. The petechial eruption was still present, but evidently fading rapidly.

Thorough aseptic precautions were used and spinal puncture made between the third and fourth lumbar vertebræ, securing about 15 c.c. of very turbid fluid. On standing a half hour the fluid was about one-quarter thin pus at the bottom, cloudy above. Fifteen c.c. of Flexner's antimeningitis serum was injected through the same needle immediately after withdrawal of the fluid.

At 8 A. M., March 6, I saw the child again and found conditions practically the same as on the previous evening. Temperature per rectum, 100°; pulse, 110. Leucocyte count was 22,000, and of these, 4,500 were lymphocytes, 750 mononuclears, and 16,750 polymorphonuclears. Thirty c.c. of cloudy fluid, practically identical in appearance with that removed the previous evening, were withdrawn and 30 c.c. of antimeningitis serum injected through the same needle. At 4 P. M., March 6, patient was seen by Dr. Tibbetts. Temperature, 103.4°; pulse, 108. The patient complained of severe abdominal pain at 3 P. M., lasting for half an hour, but aside from this was easier and less restless from 2 o'clock on than he had been for forty-eight hours.

I saw him again at 8 A. M., March 7. Withdrew 30 c.c. of fluid and injected 30 c.c. of antimeningitis serum. The fluid withdrawn was distinctly less cloudy than before and flowed more readily through the needle. Leucocyte count, 19,500. The eruption was fading rapidly and the retraction of the head and neck was not nearly so marked. Ophthalmoscopic examination showed slight papillitis in both discs with the veins somewhat congested. The papillitis appeared to be about equal on both sides. Dr. Tibbetts saw him at 10:20 A. M. and again that afternoon. At 10:20 the temperature was 102.4°, pulse 120, respirations 40. In the afternoon he was able to be held in a sitting position on his father's lap and to draw his head forward so as to drink from a glass. At 7 P. M. the temperature was 101°, pulse 100, respirations 28, and the head showed no retraction whatever.

March 8, 8 A. M., I withdrew 35 c.c. and attempted to inject 45 c.c. of antimeningitis serum. Just at the end of injection, however, the child being lightly anesthetized with chloroform, Dr.

Tibbetts noticed that he blanched suddenly and stopped breathing. The needle was withdrawn at once. The pulse could still be felt, beating about 120, but very feeble. Artificial respiration was attempted with indifferent results, and at the end of three minutes rhythmic tongue-traction was attempted. After five or six withdrawals of the tongue each withdrawal was accompanied by a slight respiratory movement on the part of the patient, and after five or six of these an occasional respiratory movement would be noted independent of the withdrawal of the tongue. After about twenty withdrawals in all had been made the child began to breathe inde- The tongue traction was stopped, and the breathing ceased after four or five inspirations. Traction was begun again, and after about a minute the child began to breathe more energetically and continued to do so after traction was stopped. The rate of traction used was about thirty to the minute.

Dr. Tibbetts saw him that afternoon and found him in better mental condition than before, able to sit up, hold his head and drink from a glass, holding it himself. He became quickly exhausted, however.

March 9, 8 A. M. Temperature, 98.6°; pulse, 95; respirations, 22. The eruption could be found with difficulty. 30 c.c. of cerebrospinal fluid withdrawn and 30 c.c. of antimeningitis serum injected. Dr. Tibbetts saw him at 8 P. M. Temperature 100.4°; pulse, 110; respirations, 24. At this time he had been able to sit on the floor for a little while and play and seemed quite comfortable, although he tired easily and was irritable.

No further injections of serum were made until March 14, but Dr. Tibbetts continued to observe him and gave the following records:

March 10, 8:30 P. M. Temperature, 99°; pulse, 100; respirations, 32. Had been quite comfortable during the day. No retraction of the head or neck. Had taken a long nap during the afternoon. He was still quite weak, inclined to be irritable, but clear mentally and helped to feed himself once during the day.

March 11, 2 P. M. Temperature 101.4°; pulse, 112; respirations, 36. Head and back were not retracted and could be moved freely. A fine maculopapular eruption had appeared over the greater portion of the body, resembling a fine urticarial rash.

March 12, 2 P. M. Temperature, 102°; pulse, 100; respirations, 24. The child had slept well,

had been quite comfortable, and had played on the floor for nearly an hour. The urticarial eruption was more pronounced than on the previous day.

March 13, 5 P. M. Temperature, 102°; pulse, 100; respirations, 24. There was slight retraction of the head and neck, the child was somewhat more irritable and complained of a little pain in the abdomen. At 8:30 P. M. the temperature was 102°. Slight retraction still persists.

March 14, 7:30 A. M. Temperature, 98.6°; pulse, 104; respirations, 28. The child was somewhat irritable, the head slightly retracted and somewhat stiff, but no retraction of the spine. About 25 c.c. of cerebrospinal fluid was withdrawn and 30 c.c. of antimenigitis serum injected. The fluid seemed to be somewhat more cloudy than that removed March 9 and was decidedly more viscid, flowing with some difficulty through the tube. An ophthalmoscopic examination made before the spinal puncture showed a slight papillitis, but much less distinct than that previously reported. That afternoon, 5 P. M., Dr. Tibbetts reported the temperature 102.4°; pulse, 100; respirations, 40.

March 15, 7:30 A. M. Temperature, 98.6°; pulse, 100; respirations, 24. The head could be moved easily in all directions. Fifteen c.c. of cerebrospinal fluid withdrawn and 15 c.c. of serum injected. 3 P. M., temperature, 103°; pulse, 108; respirations, 26.

March 16, about 15 c.c. of cerebrospinal fluid was withdrawn, but it came with considerable difficulty, and no more could be secured. Fifteen c.c. of antimenigitis serum injected.

March 17, about 10 c.c. of cerebrospinal fluid was secured with difficulty and 15 c.c. of antimenigitis serum injected.

From this time on, Dr. Tibbetts reported a continuous and uneventful recovery, the child being rather weak for a week to ten days longer, but at all times perfectly rational and showing no sign of retraction of head or back. After this time he gained strength rapidly, and I saw him again May 5. At this time he had regained his former weight, was strong, cheerful, playful, and seemed to be in every way perfectly normal. Movements of the eyes were normal in all directions. No trace of stiffness of any muscles. Kernig's and Babinski's signs absent. Patellar reflexes normal.

It should be said that Kernig's and Babinski's signs were present when the patient was first

seen March 5, and continued with little variation until March 14, when Kernig's sign had disappeared and Babinski's phenomenon could be elicited only in the right foot. March 15, Babinski's sign was absent in both extremities and Kernig's sign absent. Neither of these signs reappeared during the subsequent course of the case.

The scarcity of records in this case is due to the fact that the child lived in the borders of Wayzata village, fifteen miles from Minneapolis, and the parents were unable to employ a nurse, though they were able to give the child good care themselves. He was properly fed with liquid foods and given water frequently when he asked for it. My visits were of very short duration, between trains early in the morning, and I did not have the opportunity for this reason which would have been possible had he been in the hospital. We were unable to secure hospital accommodations for him in Minneapolis on account of the nature of the case and had to adapt ourselves to the circumstances.

BACTERIOLOGIC EXAMINATION

The fluid removed by lumbar puncture was taken to the Laboratory of the Minnesota State Board of Health and examined by Dr. Chesley, whose reports are as follows:

March 5, 1909. Fifteen c.c. of turbid, purulent fluid submitted. Smears show Gram-negative intracellular diplococci. There are many polymorphonuclear leucocytes, the majority of them showing diplococci, averaging five per cell. Cultures were made, and on March 7 a diagnosis of *diplococcus intracellularis meningitidis* (Weichselbaum), mixed with *staphylococcus aureus*, was made.

March 6, 1909. Thirty c.c. of a milky fluid with a slight precipitate was submitted. Smears show Gram-negative intracellular diplococci. Cells showing diplococci average two per cell. Cultures later gave a pure culture of *diplococcus intracellularis meningitidis*.

March 7, 1909. Forty-five c.c. of a cloudy fluid with flocculent precipitate submitted. Smears show very few Gram-negative diplococci. When found in cells no more than one pair to a cell found. Few leucocytes present, mostly polymorphonuclear and lymphocytes. Cultures gave a feeble growth of *diplococcus intracellularis meningitidis*.

March 8, 1909. Thirty-six c.c. of a slightly turbid fluid submitted. Smears show very few white blood cells; no diplococci found. Cultures showed *diplococcus intracellularis meningitidis*, feeble growth, with *staphylococcus*.

March 9, 1909. Thirty-six c.c. clear fluid submitted. Smears show a few leucocytes. No organisms. Cultures show *diplococcus intracellularis meningitidis* in purity.

March 13, 1909. Forty c.c. of clear fluid. Smears show a few white blood cells. No organisms. Cultures show *diplococcus intracellularis meningitidis* in purity.

The fluid removed March 14 and March 15, 1909, was not sent to the Laboratory.

March 16, 1909. Twelve c.c. of fluid, which was clear with a little blood in the bottom of the tube. Smears showed some red-blood cells and very few leucocytes with no organisms. Cultures gave no growth after repeated trials.

Case 2 occurred in the practice of Dr. H. G. Lampson, Minneapolis, and I am greatly indebted to Dr. Lampson for the careful history notes and leucocyte counts taken as reported herein.

(The patient's family was unable to provide a trained nurse, and hospital accommodations could not be found for her, so that we were forced to depend upon our own observations and to have her cared for by members of her own family.)

The patient, Selma B., is Norwegian, married, a housewife, aged 22, weighs 130 lbs.

Family history gives nothing of interest.

In her previous history it is stated that she had typhoid fever six years ago and no other illnesses. One cousin died of tuberculous meningitis one year ago.

Present illness.—May 30, 1909, she had severe headache for about four hours in the afternoon and vomited once. That night she slept well and rose at 6:30 A. M., May 31, feeling well.

May 31, 7:15 A. M., had a chill; severe headache began suddenly and she began to vomit. At 8 A. M. she went back to bed, and the headache increased, being very severe especially at the vertex, until 11:30 A. M., when she became unconscious. She was seen by Dr. Lampson at 12:30 P. M., one hour after unconsciousness began.

Physical examination shows a strong, well-nourished woman lying on her right side. The head is slightly retracted, and she is very restless on being disturbed. The right pupil is slightly dilated, and the right eye rotated a little outward and up. Kernig's sign is present on the left side and absent on the right side. Babinski's phenomenon is absent on the left side and present on the right side, and patellar reflex absent on both sides.

Pulse is 90; temperature, 103° by axilla. Tongue coated and white. She is vomiting frequently, the vomiting paroxysm coming on suddenly and the gastric contents are ejected forcibly. She has frequent involuntary stools and in-

voluntary micturition, is menstruating, and is very irritable to stimuli, i. e., becomes restless when disturbed.

Dr. Lampson made a diagnosis of fulminating cerebrospinal meningitis, advised the use of Flexner's serum if the case proved to be due to diplococcus intracellularis, and I saw the case at 4 P. M., this day, May 31, 1909. At this time the temperature is 104°, pulse 100, neck stiff and retracted, and physical signs confirmed as above reported.

Leucocytes, 18,000. Lumbar puncture with serum treatment if indicated was advised, but the patient's friends determined to wait until the next morning before making a definite decision.

June 1, 7 A. M., seen by Dr. Lampson. She was partially conscious, but very restless, still vomiting; temperature, 104°; and the evidences of meningeal irritation all increased. It was agreed by the family that lumbar puncture should be made and serum used, if indicated, and stipulated that in case the patient did not survive complete autopsy could be obtained. At 1:45 A. M. I withdrew 30 c.c. fluid from a puncture in the third lumbar interspace. This fluid was very turbid, but not thick.

Thirty c.c. Flexner's antimeningitis serum was injected through the same needle. Because of restlessness it had been necessary to induce primary anesthesia with chloroform, while making the puncture.

7 P. M. Patient has been conscious all day after recovery from anesthetic, but very restless and irritable and had severe headache at 11 A. M. Temperature, 102.2° at this time. Reflexes unchanged since morning.

June 2, 8 A. M. Ophthalmoscopic examination shows a slight swelling of the disc in the right eye with marked choked disc and venous congestion in the left. On looking up and to the right the patient complains of diplopia. She is much clearer mentally and less restless.

At 8:30 A. M. Second lumbar puncture was made, obtaining 30 c.c. of fluid nearly clear, though with a slight turbidity, but contrasting strongly with the fluid withdrawn the previous day.

Thirty c.c. of Flexner's serum injected. Local anesthesia was used for puncture. During the withdrawal of the fluid, headache and dizziness were complained of, and on injecting the serum she complained of severe headache and pain in

the legs. About 15 minutes after the injection, Kernig's sign was present on the left, slight on the right; Babinski's phenomenon, present on the right, absent on the left, and patellar reflexes both absent. Temperature, 100.2°; pulse, 78.

During the remainder of the day until 10 P. M., she was very comfortable, seemed much stronger, quite clear mentally, took some peptonized milk and broth, did not vomit, passed a fair quantity of urine and one well-formed stool. Once during the afternoon she took a little solid food. At 10 P. M. her temperature was 100°, and pulse 80.

June 3, 8 A. M. Temperature, 99.4°; pulse, 78. She slept well during the night, had no pain, felt strong, and was bright and cheerful. Kernig's sign marked on both sides; Babinski's phenomenon present but slightly on both sides, patellar reflexes absent.

Diplopia was more marked, and there was a petechial area on the inner surface of the right knee and a small one on the left hip and the right shoulder. Leucocytes, 17,000.

Lumbar puncture under local anesthesia gave 12 c.c., only, of clear fluid.

Thirty c.c. of Flexner's serum was injected. During this she complained of headache and dizziness with pain in the legs, but this passed away within five minutes after the injection was stopped. At 5 P. M. the diplopia was less marked, temperature, 100.2°; pulse, 76; the retraction of the head was less than in the morning and a general eruption of hives had begun to show itself.

June 4, 7:30 A. M. Reports a good night; takes food and retains it. Temperature, 100.2°; pulse, 80. Neck can be readily flexed so the chin can almost touch manubrium. Diplopia has disappeared. Kernig's sign present on the left, not marked. The plantar reflexes normal on both sides. Patellar reflexes absent.

Ophthalmoscope shows less injection of vessels in the left eye. Otherwise same as June 2.

Lumbar puncture secured 30 c.c. of clear fluid; and 15 c.c. of Flexner's serum was injected (fourth injection since beginning of treatment).

8 P. M. Reports a good day, felt well, mentally clear, has been eating. Temperature is 100°, pulse 80.

June 5, 9 A. M. Has slept all night, can flex neck more than on previous day, but it is still a little stiff. A doubtful Kernig's sign is present

in the left leg, absent in the right. Reflexes otherwise all normal. Temperature, 100°; pulse, 80.

June 6, 10 A. M. Temperature, 100°; pulse, 80. Neck still slightly stiff, but she feels well. Ophthalmoscopic examination shows still less injection of vessels of left eye, and the swelling of the disc in both eyes seems to be not quite so pronounced. Leucocytes 11,000.

At 9 P. M. Conditions unchanged since morning.

June 7, 8 A. M. Temperature, 99°; pulse, 76. Stiffness of neck lessening. Reflexes all normal.

June 8, 8 A. M. Temperature, 98.8°, pulse 74. Head and neck can be flexed as freely as under normal conditions.

June 9, 8 A. M. Temperature, 98.4°; pulse, 76. Kernig's sign absent. Can flex head fully. Reflexes normal. A moderate herpetic eruption about the lips, and a few urticarial wheals over body and limbs. These are not large and cause but slight itching. Ophthalmoscopic examination shows some swelling of discs in both eyes, but a little more pronounced in left than in right. The swelling is distinctly less than when seen June 6.

The lumbar puncture (fifth in the series) made between the second and third lumbar vertebrae withdrew 15 c.c. of clear fluid. Injected 30 c.c. antimenigitis serum. Complained of much pain in head and legs, stiffness of neck, and seemed much distressed during injection.

10 A. M. Pain continues and she is restless and vomits occasionally.

9 P. M. Temperature, 102.8°; pulse 98 and irregular; respiration, labored and sighing; leucocytes, 31,300.

June 10, 8 A. M. Temperature, 99.4°; vomiting has ceased, headache better, feels fairly well. Leucocytes 21,000.

June 11. Temperature, pulse, and respiration normal. Appetite good. Feels fine.

June 12. Feels perfectly well, wishes to get up out of bed.

June 14, 8 A. M. Temperature, 98.4°; pulse 72 and regular. Reflexes all normal. Patient sitting up. Leucocytes 7,300. Nurse discharged.

June 17. Temperature and pulse normal. Appetite good and bowels regular. Right pupil is slightly dilated, and on bringing object inside of near point patient fixes with one eye. Vision ap-

parently equal on both sides. Patient up and dressed four hours.

June 22. Patient remains well and is taking considerable outdoor exercise. Seems to be no contraction of visual field in either eye.

BACTERIOLOGIC EXAMINATION

The fluid removed was sent to the Laboratory of the Minnesota State Board of Health and examined by Dr. Chesley, whose notes are as follows:

June 1, 1909. Thirty c.c. of cloudy, turbid fluid containing many polymorphonuclear leucocytes. No diplococci found. Cultures did not show growth. No diplococci found.

June 2, 1909. Thirty c.c. of a slightly turbid fluid. Smears show many leucocytes. No diplococci. Cultures show Gram-negative diplococci, positive diagnosis of *diplococcus intracellularis meningitidis* (Weichselbaum) being made June 4, 1909.

June 3, 1909. Three c.c. fluid submitted. Smears showed fewer leucocytes than yesterday. No diplococci found. Cultures were not made.

June 4, 1909. Thirty c.c. fluid, clear. Smears showed no cells. Cultures negative.

June 9, 1909. Fifteen c.c. clear fluid submitted. Smears show no leucocytes and no cocci. Cultures negative.

DISCUSSION

These cases were of such a character with the pronounced symptoms, early eruption in Case 1, soporose condition in Case 1 inside of thirty-six hours, and the coma in Case 2 inside of twenty-four hours after the first symptoms, that anyone who has had experience with meningitis will recognize at once the gravity of the situation and admit, without doubt, I believe, that the cases under ordinary circumstances and usual treatment would probably be fatal within a week.

The first matter of special interest in the diagnosis in the first case is that the cloudy fluid containing leucocytes and Gram-negative intracellular diplococci was sufficient to justify the use of Flexner's serum on the days immediately following, although a positive bacteriologic diagnosis of *diplococcus intracellularis meningitidis* could not be made until the third day. In the second case the cloudy, turbid fluid containing many leucocytes and no diplococci, was sufficient, in my judgment, in the presence of positive meningeal symptoms and the absence of a factor such as pneumococcus causative of meningitis to justify the use of the serum until a positive determination of some causative organism could be made. This determination could not be made from smears because of the absence of diplococci, but it was necessary to wait for the development of organisms in cultures, and

proved, eventually, on June 4, the third day, the presence of *diplococcus intracellularis meningitidis*.

Flexner states that the "mortality of the disease reached during the height of epidemics in the United States and in Great Britain has been about the same, that is, 75 per cent before the use of the serum." He also states that the mortality of the sporadic form "has not been considerably lower than that figure and has sometimes been higher."

A number of independent reports have been made by Dunn, Robb, Ker, etc., but these are for the most part included in Flexner's analysis of 400 cases, and it is unnecessary, therefore, to deal with them here.

I shall proceed without further discussion to a consideration of the manner of employing the serum. The best idea of the conditions under which the serum may be obtained may be gotten by quoting in its entirety the letter given by the Director of the Laboratories of the Minnesota State Board of Health, at the University of Minnesota.

"Since the serum treatment of meningitis is still in the experimental stage and on account of the difficulty in preparation and limited amount of serum available, Dr. Flexner permits its use only under the following conditions, which must be accepted by all concerned before beginning serum treatment:

"The patient's family or friends, the attending physician and the laboratory staff must co-operate and assist one another in every way to insure a thorough scientific study of the case, not only for the successful treatment of this patient, but also that other patients in the future may receive the benefit derived from the study of this case.

"The patient's family must assist in the observation of the case and permit a post-mortem examination to be made by the attending physician and a member of the laboratory staff if the patient dies.

"The attending physician must make a full report on the clinical symptoms and treatment throughout the course of the disease. This report should include differential blood-counts before and about twelve hours after each serum treatment, as well as careful observations and comments upon the effect of the serum. He is also required to fill out the data blanks attached to the serum and specimen bottles and forward the empty bottles and the specimen of cerebrospinal fluid to the laboratory without delay.

"The laboratory will issue serum, sterile salt solution and sterile specimen bottles with detailed instructions for the use of the serum and collection of the specimen; will make microscopic and culture examinations of every specimen of cerebrospinal fluid received and report results to attending physicians; if the patient dies, will furnish a pathologist with proper equipment for autopsy; finally, will send a complete report of the case to Dr. Flexner, omitting the patient's name.

"The acceptance of the serum implies that all parties agree to carry out the above requirements."

It will be seen by this that the serum is as yet not on the market, but is available for scientific study and employment.

Since Dunn has summarized very carefully the method to be employed in using the serum, I also quote the abstract from his article (Boston Medical and Surgical Journal, 1908, cliv., p. 843) issued from the Minnesota State Board of Health Laboratories with each supply of serum:

"1. When lumbar puncture is performed in a suspicious case, be prepared to inject the serum. If the cerebrospinal fluid withdrawn is cloudy make the injection of serum immediately and without waiting for bacteriological examination. The next doses of serum are to be given only if *diplococcus intracellularis* has been demonstrated.

"2. Always withdraw as much cerebrospinal fluid as possible at each puncture and inject full doses of the serum. Thirty cubic centimeters of serum should be injected in every instance in which this quantity of fluid or less has been removed, unless a distinctly abnormal sense of resistance in the spinal canal is encountered after as much serum has been injected as fluid has been removed. When the amount of fluid withdrawn exceeds 30 cubic centimeters, introduce a large quantity of serum—up to 45 cubic centimeters, or even more. In the very severe or fulminating cases inject 30 to 45 cubic centimeters of serum without reference to the quantity of fluid removed unless abnormal resistance is encountered.

"3. In very severe or fulminating cases repeat the injection of serum within the first twenty-four hour period, as soon as the symptoms intensify, or, where the condition remains stationary, after the lapse of the first twelve hours.

"4. In cases of average severity make daily injections of full doses for four days. If *diplococci* persist after the fourth dose, continue the injections until they have disappeared.

"5. If the subjective symptoms including fever and mental impairment persist after the *diplococci* have disappeared or after the four doses have been given, and improvement is not progressing, wait four days, if the condition is stationary, and then repeat the four injections. Should symptoms have become worse before the expiration of this period, the injections should be resumed immediately.

"6. In relapse which is indicated either by reappearance of the *diplococci* in the cerebrospinal fluid or recrudescence of the symptoms, the four doses at twenty-four hour intervals are to be repeated and the subsequent treatment is to be conducted as for the original.

"7. This plan of treatment is to be followed until the patient is free of symptoms, the *diplococci* disappear from the cerebrospinal fluid, or the chronic stage of the disease supervenes. The serum has proven of great benefit in the chronic stages in which the *diplococci* are still present in the meninges. When the condition of hydrocephalus has been established the

injection of serum into the spinal canal offers little of value. It is possible that direct intraventricular injections may be of benefit in this condition."

From my limited experience with the use of Flexner's serum I would add only this: It may be difficult or impossible to find Gram-negative intracellular cocci in the exudate in certain cases of infection with *diplococcus intracellularis meningitidis*. This is especially true in a severe, almost fulminant type, as Case 2, and this experience has been reported by other observers. In the presence of positive symptoms of meningitis and with the absence of an etiologic factor, such as pneumonia, endocarditis, or injury, and when the fluid removed is cloudy, giving positive evidence that a meningitis exists, then the serum should be used as though the presence of *diplococcus intracellularis meningitidis* were proven, until such time as cultures or other evidence reveals the nature of the infection. It is advisable to adopt this attitude only when one has had experience with meningitis sufficient to make him sure of his ground, and it is only the occasional case in which one will need to wait for the results of culture before making a positive diagnosis. As a rule the *diplococci* may be found upon examination of the first smear. Occasionally they will be few in number and require considerable search, and may then be present only one or two pairs in each cell, although usually several pairs will be found within a single leucocyte. Additional encouragement to the use of the serum in a case where one must wait for the results of culture before making certain diagnosis is afforded by the marked improvement in symptoms and in the condition of the cerebrospinal fluid, as illustrated in Case 2. In this case one would be inclined, even in the absence of a final positive cultural determination, to make a positive diagnosis of *intracellularis* infection because of the brilliant result with the use of serum, contrasting strongly with the results of any other form of treatment, including lumbar puncture without serum injection, which has sometimes been used as a palliative measure.

*"Since the following procedure may be valuable in a certain number of cases, it is appended to Dr. Dunn's paper. The abstract is from Dr. Robb's discussion in the British Medical Journal of October 31, 1908:

"In some cases it was found that even when a large trocar was used, pus was obtained so thick that it could not be got to flow. In such cases, a few syringefuls of normal saline were injected and allowed to flow off again, and this repeated several times, so that the lower part of the canal was fairly thoroughly washed out, and the serum was then injected."

ABDOMINAL PAIN; ITS CLINICAL SIGNIFICANCE*

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The ancients rightly termed that portion of our anatomy lying between the thorax and pelvis, the *abdomen*, from the Latin *abdo*, I conceal. How often in the past three or four years of a preoccupied professional routine has the writer been impressed with the aptness of the name; how, in an unguarded moment, the vague pains of a patient were lightly passed off as equally unimportant in causation, only to be regretted at some future time! I shall herein set forth, both in a general and a special way, those painful conditions referring to or located in the abdomen as I have learned them from actual experience in our local surgical and medical clinic. And having our diagnostic findings corroborated or rejected by the living pathology of the operating-rooms, I feel because of this fact that our observations have a considerable measure of diagnostic accuracy.

But before citing and commenting upon the various kinds and significance of abdominal pain I shall dwell a moment on the question of abdominal diagnosis. What causes the frequent diagnostic errors in abdominal conditions, and why are lesions in this cavity so often overlooked? Is it because this particular portion of the human anatomy is more complex in its construction? Is it because the anatomical topography is more difficult to understand, or is it the individual physician himself? In my opinion the individual physician is the cause of these errors made in abdominal diagnosis. I say this to my colleagues, not in a spirit of condemnation, as I fully recognize their ability to cope with conditions of this kind as well as others. They are errors more of omission than commission, in the sense that their patients are hastily examined and treated more along the lines of therapeutics than in accordance with the results of a thorough scientific search. To cite a concrete example: An occasional error in pelvic diagnosis has been obviated time and again in this clinic by repeated examinations, often at intervals of a week or a month. Thus often an abstruse case, which had been sent in for surgical interference, is cleared up, aided by the element of time and repeated examinations under varying conditions. I feel that one of the most basic considerations of successful diagnosis is

careful, concise history-taking, and this is a thing which can be so easily neglected by the general practitioner whose busy, daily mixed practice easily exposes him to these negligences; but this applies more especially to "the too-busy to-stop-to-examine physician" who thinks only of the quantity of calls he can accumulate on his calling-list. And in the busy routine of the diagnostic work of this clinic, how often could the major and minor phases of a case be disregarded were it not for the fact that a superior by intuition, or a colleague with a more developed sense of thoroughness, will reveal one's shortcomings to one's discredit or mortification? "The art of surgery, particularly in the abdomen, has made such rapid strides in the past decade that the terms indigestion, constipation, peritonitis, inflammation of the bowels, other alvine manifestations, no longer stand in a class by themselves, but are collated in a basic system of physiological reasoning, which results in finding a distinct and characteristic lesion pointing with certainty to the parts involved. The mature and careful consideration of all symptoms involving the viscera and the tracing of this physiological origin are therefore obviously paramount."

Now, abdominal pain, per se, as a strict, diagnostic symptom may be misleading and confusing. For this reason one should never ask a patient where pain is located, but search for it himself. This may sound unconvincing, but when one stops to consider the close relationship between the sympathetic plexuses and cerebro-spinal nervous system of this region one may realize how pain may radiate generally, instead of settling itself in one particular area. And in the abdomen it is an elementary anatomical fact concerning the intimacy of the six lower intercostal nerves with visceral and mesenteric plexuses of the splanchnic sympathetic nerves. Then, again, pain may be the result of a reflex condition, leading to parts which are not involved and opening up a line of theory and reasoning which may prove uncertain and remote. It is our duty to palpate the particular painful spot and note its corroboration by the facial expression of the patient, waiving any abnormal mental sensitiveness. This palpation produces the most important sign for successful abdominal diagnosis. The examiner should never allow

*Read before the Olmsted County Medical Society, May 13, 1910.

pain alone to influence his judgment until he finds during his examination that it has been caused, or made more severe, by palpating a particular spot. The progressive clinician cannot help but be impressed and profit by the tact and skilfull thoroughness of the German diagnostician, who, after years of laborious effort, can elicit and properly interpret each physical sign. And every now and then their literature announces and adds some new, yet old, means or method of assistance in the diagnosis of vague abdominal lesions.

However tactful and careful one has been there will be patients whose abdominal walls are too fat, or those hypersensitive ones who, most intractably, make their muscles rigid in spite of reassurance, repeated examination, or different postures. If an individual of this class presents himself the examination should be either discontinued, or continued while the patient is in a hot tub or under the influence of an anesthetic. And let the examination be thorough, irrespective of sex, if there is the slightest reasonable justification. A vaginal examination should never be omitted, especially when a woman complains of backache. A pus tube, a right ureteral stone, or an ovarian cyst is often diagnosed as appendicitis, and a vaginal laceration with retroverted or prolapsed uterus treated for lumbago and kidney disease. And let us not neglect the blood-count and the blood-pressure apparatus.

Barring appendicitis, the majority of painful attacks are limited to the upper one-half of the abdomen. When the patient presents himself for examination, the age, the physical appearance, the character, and the location and chronicity of the pain are the unconscious factors that naturally present themselves to the mind of the diagnostician, and he may make an off-hand, tentative diagnosis, although, with as little prompting as necessary, the patient should describe his sensations as he has experienced them and as fully as possible, the physician at the same time to be open-minded and hold in abeyance any pre-conceived views or foregone conclusions. Then, with all data available and the symptom-complex well in mind, the physician can ask those leading questions necessary to complete the clinical picture.

Affections limited to the upper right abdomen are mostly concerned with the gall-bladder and the kidney. Ordinarily careful history-taking, the physical findings aided by the radiograph and cystoscope, if necessary, should eas-

ily differentiate diseases of these organs. But even with all the modern methods of diagnosis, aided by specialized skill of the various departments, one often hesitates in arriving at a conclusive diagnosis. Just to cite a recent case:

Patient, Mrs. W. A.; married; aged 48; one child, aged 23. Four miscarriages (from two weeks to two months; cause not determined); menopause, two years. Complaint: For past four years brief spells of severe pain commencing in epigastrium passing to the right costal border, radiating straight through to the back and occasionally to the right infrascapular region; sometimes passing downward to the right umbilical area, and accompanied by tenderness and rigidity throughout the right abdomen, most marked in the region of the right kidney, anteriorly and posteriorly; also diaphragmatic colic limited to the right side; nausea; belching; and frequent and profuse urination. No hematuria; no fever and no chills; pain not colicky, and gradually disappearing after two to three hours. Last attack, two weeks ago. The physician gave a hypodermic of morphia to control pain, and said there was moderate sclerotic icterus. Examination showed tenderness and rigidity most marked at the level of the right kidney through to the back, and in the right iliac fossa.

Urine, negative; pelvis, negative. Tentative diagnosis; gall-stones.

Cystoscopic examination of both ureters and pelves, negative. Radiograph showed a definite shadow of a soft stone in region of the right kidney. Collargol plate proved that the shadow was not intimate with kidney pelvis, probably in the cortex. Shadow apparently too low for gall-stones, because it was lying parallel to the plane of the kidney.

Diagnosis: Stone in the right kidney. Explore the appendix and gall-bladder from posterior incision. Operation revealed a prolapsed gall-bladder filled with stones. The kidney was negative. However, the gall-bladder was drained and stones removed through a lumbar incision. The patient is making an uneventful recovery.

This is one of the many usual cases that occur almost daily, showing the impossibility of a conclusive, accurate diagnosis in many instances of abdominal lesions. Ordinarily gall-bladder disease is not difficult of diagnosis, if not complicated by adhesions to the neighboring structures, like the stomach and duodenum.

The characteristic and significant symptoms are (1) chronic, long-continued, or recurring in-

digestion; and (2) the phenomena designated gall-stone colic. The symptoms of chronic, long-continued, or recurring indigestion are of the utmost importance, and are commonly misinterpreted. It is now well known to surgeons, although less widely acknowledged by general practitioners, that the symptoms commonly denominated "gastralgia" "stomach trouble," "indigestion," "dyspepsia," etc., are due, in many cases, to disease of and about the biliary tract.

"Gall-stone colic usually develops suddenly with severe, often agonizing, pain in the right hypochondrium or the epigastrium, radiating around the chest or to the right scapular region, nausea, vomiting and prostration, weak, rapid pulse, rapid heart-action, profuse perspiration. Sometimes the severe pain lasts for a few moments only; usually it lasts for from two to twelve hours. The pains of cholelithiasis may be colicky or non-colicky. Jaundice may or may not be present." The clinical picture may be shaded by the presence or absence of cholecystitis, cholangitis, empyema of the gall-bladder, a stone in one of the various ducts, pancreatitis, etc.

In other painful affections about the gall-bladder or the liver the clinician must bear in mind the possible presence of acute or chronic hepatitis, diaphragmatic pleurisy, subdiaphragmatic abscess, hydatids of the liver, and the hepatic crises of myocardial incompenation.

The diagnosis of kidney lesions, aided by the cystoscope, radiograph, and functional tests, approaches pretty near an exact science. That left-sided, chronic pain, the *bête noir* of the profession, may be due to a hydronephrosis, a loose or tuberculous kidney, an ovaritis, gastric ulcer, or to a diseased condition of the gall-bladder. To cite an instance of the latter condition, I have now under observation a case which, along with pelvic troubles, was suspected to have gall-stones on account of a history of chronic indigestion, painful attacks, and tenderness limited to the left costal border and left scapular region. In the routine exploration of the abdomen during an operation for a subtotal hysterectomy, a thickened gall-bladder containing two large stones was palpated. Suffice it to say that our patient will lose these at a subsequent date.

The multiplicity of painful symptoms referable to the epigastrium is a familiar fact to all of us. Lesions or functional disorders of the stomach, the initial symptoms of biliary and hepatic disease, and pancreatitis are the commonest types. In the young adult the physi-

cian is mindful of reflex symptoms from diseased conditions of the appendix and cecum, not forgetting the motor gastric neuroses, pylorospasm, and cardiospasm. These latter two entities, I feel, are often as dependent upon organic as upon functional derangement. Then, again, there are the abdominal manifestations of organic nervous diseases, such as the gastric crises of tabes. The writer recalls five distinct cases of tuberculous disease of the uterine adnexa which so closely simulated inflammatory disease of the gall-bladder that, judging from the patient's own history, one would hardly look for so remote a condition as pelvic disease having any etiological bearing. One must not forget to include the referred painful symptoms, which are often very acute, of organic heart or arterial disease. "Much attention has been paid of late years to abdominal symptoms in arteriosclerosis. Pal and others believe that very many of the painful gastric and intestinal conditions are associated with spasm in the gastric and mesenteric vessels; some would associate the multiple functional disturbances of abdominal neurasthenia with degenerative changes in the arteries. The victims of angina pectoris may have marked abdominal symptoms, and of late writers have spoken of such attacks of abdominal pain as *angina abdominis*."

"Milder attacks of epigastric pain and intestinal cramp and meteorismus have been attributed to arteriosclerosis. The clinical features of gastric and intestinal dyspnea have been regarded as manifestations of circulatory disturbance in the sclerotic vessels. Even an intermittent claudication of the stomach has been described."

I recall a recent case, under observation by a colleague, of this so-called angina abdominis. The patient, a robust appearing half-breed rancher, aged 55, with an antecedent history of alcohol, possibly lues, was referred to us for gall-stone disease. For over fifteen years, at irregular intervals of two months to a year, he was subject to sudden, severe attacks of pain in the right epigastrium, spreading diffusely over the upper abdomen. Relief was usually obtained by morphia, given hypodermically. There was no final localization, rarely epigastric disturbance, and no jaundice. (The latter symptom, barring stained conjunctivæ, would be hard to determine anyway, owing to his dark complexion.) His radial and femoral arteries were sclerosed; there were present the intermittent characteristic pulse of chronic myocarditis,

an accentuated aortic second sound, and cardiac enlargement of three cm. to the left of the nipple line at the level of the fourth costal cartilage. His systolic blood-pressure was 180 mm. He had an unusually severe spell while here under observation. The blood-pressure during the attack was 220 mm. Radial pulse was full and bounding and obliterated only by firm pressure. An exceptional feature of the case was a temperature of 104° during the attack and agonizing pains throughout the limbs.

A cursory examination of the nervous system gave us no evidence of luetic disease. Prompt administration of perles amyl nitrite without opiates caused gradual amelioration of the symptoms and a fall of 70 mm. in blood-pressure. This confirmed our diagnosis, which was further substantiated by marked improvement through the daily administration of iodides combined with nitrites, and regulation of personal habits and mode of living. I have often felt that this case was not unlike one reported recently by Lewellys Barker wherein he showed a painful paroxysmal splanchnic arteriospasm with hypertension in the gastric crisis of tabes. (*American Jour. Medical Sciences*, May, 1910.)

As regards organic diseases of the stomach, particularly ulcer and carcinoma: pain, or distress almost amounting to pain, is an invariable symptom. Bearing in mind that pain is always present to a greater or less extent during the functional activity of this organ, one has the keynote to a differential diagnosis in visceral lesions of the upper abdomen. The midnight or early morning attack of cholelithiasis is almost proverbial.

The lower abdomen is chiefly concerned with the much-abused, much-removed, but frequently diseased appendix vermiformis. The frequency of disease in this vestigial organ has given a great impetus to the surgical treatment of intra-abdominal lesions. How often the pain of a right ureteral stone, ovarian cyst, salpingitis, the tuberculous coxitis of children, tuberculous or malignant disease of the cecum, has been taken for inflammatory disease of the appendix, however!

To what a great number of protean symptoms do affections of this organ give rise! Beside this very frequent cause of pain in the lower abdomen there passes before the mind's eye other and rarer possibilities of benign inflammatory and malignant tumors of the intestinal tract, the various forms of colitis, enteritis, intestinal colic, whether of functional or organic origin,

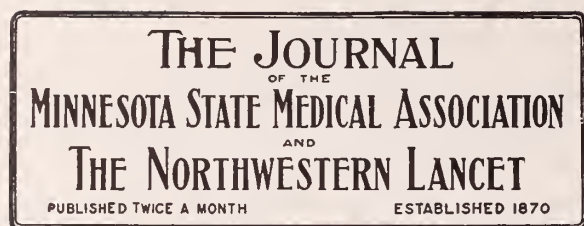
tuberculous peritonitis, or lower abdominal manifestations of pelvic disease. Or are we perhaps dealing with a complication like the perforation of enteric fever, the enteralgia of hysteria, or organic spinal disease? These are all glittering generalities, but one cannot help but be impressed with the possibilities of that "belly ache." Unlike diseased conditions of the upper abdomen, we do not have such valuable and familiar diagnostic agents as the radiograph, the cystoscope and the test-meal to aid us in differentiating trouble in the lower abdomen, but by tactful use of hands and eyes, by our increasing knowledge concerning the physiology and metabolism of the alimentary tract, aided by the bismuth plate and the sigmoidoscope, the interpretation of lower abdominal pains is placed on an equally scientific basis.

THE USE OF INTERNAL ALUMINUM SPLINTS IN THE TREATMENT OF FRACTURES

William S. Thomas, New York, advocates the use of internal aluminum splints with steel screws, in the treatment of fractures where there is comminution and displacement of fragments. The aluminum plates may be molded to the desired shape after the fracture has been exposed. It is sufficient to expose only enough of the fragments that the plates may rest against them. With the plate bridging the site of fracture the drill is entered through a hole in the plate, and driven into the bone sufficiently to allow of entering the screws so as to hold the fragments in apposition.—*Medical Record*.

THE PARADOX OF THE TUBERCLE BACILLUS

Ira Van Gieson, New York, denominates the paradox of the tubercle bacillus the condition arising from not finding any bacilli under the microscope and yet proving their presence by animal inoculation. He describes a study of acid-fast particles subject to confusion with the tubercle bacillus in sputum and tissues. The author believes that they are fatty food particles making their way into the sputum, coughed up immediately after a meal. The same appear in old cheesy material and in feces. The theory of Much that the bacilli lose their acid-fastness is wrong. Cheesy material shows an amazing complexity of organic structure, with a wealth of chromatin particles emerging from a host of leucocytes in all stages of degeneration.—*Medical Record*.



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AUGUST 1, 1910

THE MINNESOTA STATE MEDICAL ASSOCIATION

The next meeting of the Minnesota State Medical Association will be held in Minneapolis October 6th and 7th. The House of Delegates will meet on the afternoon of the 5th. On the latter date the State Sanitary Conference will meet for an all-day and an evening session. The place of meeting will be announced and the program for both organizations will be printed in an early issue of THE JOURNAL-LANCET.

The State Medical Association has been fortunate in securing the new president of the American Medical Association, Dr. John B. Murphy, to give the oration on surgery. His subject will cover the newest advances in surgery of the nervous system. Dr. Murphy is peculiarly fitted to speak on this subject, and his address will probably assure a large attendance.

Governor O. A. Eberhart will also address the Association on the "Influence of the Medical Man in Politics."

The governor's well-known sympathy for medical men, and his special interest in matters

tending to better the public health, will add greatly to the success of the meeting. The preliminary program is well under way.

The program committee, Dr. S. Marx White, of Minneapolis, and Dr. W. R. Humphrey, of Stillwater, and Dr. McDavitt, are endeavoring to secure men from the country rather than men from the Twin Cities to fill the program. Unfortunately, many men from the country are diffident about reading papers, a fact much to be regretted. It is hardly fair to expect men from the cities to bear the burden of the work, and it is also unfair for the men in the smaller towns to shirk the responsibility.

One half day will be devoted to public clinics where ambulant cases can be shown. In order to make the clinics interesting and to bring out discussion material will be provided and a few men from out of town will be urged to give clinics. Histories of the cases presented will be worked up, and special analyses will be made, so that no man will feel embarrassed in the presentation of a case.

Other features of equal interest will be undertaken to make the meeting a success.

AN AUTOMOBILE SYMPOSIUM

We desire to publish in an early issue a symposium on the automobile, and for a specific purpose, namely, for the information of medical men who do not have automobiles and are undecided as to their value to the physician, in city, village, or county. We ask our readers for contributions of about one hundred words each.

We suggest that the writers make definite general statements and give specific illustrations of the service they have gotten from their machines.

Dependable statements of the comparative cost of horses and machines will be of value.

If any of our readers have had experience with both low- and high-cost machines, their opinions as to the price that is, in the end, the most economical, will be of special value.

Definite and reliable (growing out of experience and careful observation) criticism of automobiles may be even more valuable than general praise. We want facts, regardless of which side they are on.

An early and generous response to this request will be greatly appreciated by the editor, and cannot fail to be of value to our readers.

DR. ALEXANDER JOHNSON STONE

The pioneer of medical teaching in the State of Minnesota, the first and the best of her medical journalists, a physician of large and faithful following and of fruitful work in his day and generation, a public officer of long and valuable service to his city and state, a speaker of rare eloquence and power, a scholar of broad culture, a man of singular sweetness and light, of remarkable grace of manner, of genial nature, of unvarying courtesy, of unswerving loyalty and tireless energy, has been lost to the profession of medicine and to the service of society in the death, on July 16, 1910, of Dr. Alexander Johnson Stone.

Dr. Stone was born in Maine, in the year 1845. He was graduated from the Berkshire Medical College in 1867.

He came to St. Paul in the year 1870, and joined the Ramsey County Medical Society on February 27, 1871. At once he began the fulfillment of the fourfold function which he assigned to himself and to every cultured and educated physician: the practice of his profession, the teaching of medicine, the support of medical journalism, and the guardianship of the public health. He believed it to be the business of every man in his calling to carry high and to burn brightly the torch of the acquired learning of his profession and to pass on its augmented flame to those who follow him; to serve well his clientele and community and to equip other and younger men to serve them better.

He enjoyed a large practice which developed, early, along gynecological lines.

At the time that he entered professional life, the old preceptorship in medicine was proving inadequate to the educational needs of the day. Recognizing this fact, he and a small group of his colleagues organized the St. Paul Medical School, Preparatory, which gave no diplomas and conferred no degrees, but simply added a measure of systematic instruction to the prevailing methods of teaching. A few years later, his ambitions grew and he and his associates chartered the St. Paul Medical College, which undertook the entire education of the student of medicine. Subsequently, this school was combined with a similar venture in Minneapolis, to form the Minnesota College Hospital, and, for some years, Dr. Stone faithfully journeyed to the sister city to take his share in its teaching labors. Again, the school of the twin cities split into two, and the St. Paul Medical College, with Dr. Stone at its head, was revived.

In 1888, it and its co-existent schools in the state surrendered their charters to aid in the establishment of the department of medicine of the University of Minnesota. In the College of Medicine and Surgery he filled, with fine ability as a lecturer, the Chair of Gynecology, from the date of its organization until his death. He was constant in his support of his colleagues in the councils of the faculty. He attended his last faculty meeting on May 12, 1910.

Very early in his career, he founded the first medical journal published in the state, which he maintained successfully through several volumes. Retiring from its editorship for a time, he, later, acquired and edited the *Northwestern Lancet* to which he devoted time and energy in unstinted measure. Few were the years of his professional history in which he was not actively interested in medical journalism.

He was elected secretary of the Ramsey County Society in 1873, vice-president in 1880, and president in 1881, but declined the latter position, because he was then president-elect of the State Association. He was a delegate to the American Medical Association in 1885, when it met in New Orleans. He was made a member emeritus of the Ramsey County Society in 1900. As a public sanitarian, in office and out of it, he very earnestly and devotedly served and informed the community in which he lived.

No medical man in the state has been more widely known or more generally loved. Few are the men who hold so unchangingly the affection of their friends. And there was exceptional reason for the tenacity of their regard. He was a lover of his kind, a friend who never failed the call of friendship, a man who was a gentleman at heart, as well as in manner, carrying the courtliness of an earlier day, with the grace which was the product of his own fine feeling,—the outward symbol of an essentially gracious soul.

Dr. Stone will be missed and mourned and remembered by many whose fortunes have been favored and whose hearts have been warmed by his familiar presence.

We give below some testimonials from those who knew Dr. Stone best.

RESOLUTION AND MEMORIAL

Adopted by the Faculty of the College of Medicine and Surgery of the University of Minnesota, July 20, 1910.

RESOLUTION

Resolved, that the Faculty of the College of Medicine and Surgery of the University of Minnesota

records with sorrow the death of Alexander Johnson Stone, Professor and Chief of the Department of Gynecology, an original member of this faculty and the earliest teacher of medicine in this state, and adopts the attached memorial which shall be spread upon the records and become a part of the history of this College, and a copy of which, with a copy of this resolution, shall be sent by the Dean to the widow of Dr. Stone.

MEMORIAL

The Faculty of the College of Medicine and Surgery has lost, in the past, many men of worth and effective service, but it has numbered none whose death is mourned with more affectionate regret or with keener appreciation of the passing of a faithful colleague and an able teacher than is that of Dr. Alexander Johnson Stone.

He was the pioneer of medical education in the state of Minnesota, establishing the first preparatory school of medicine in 1871; and he has been in continuous service as a medical educator, teaching, first, in that modest school, and, successively, in the St. Paul Medical College, in the Minnesota College Hospital, in the reorganized St. Paul institution, and, finally, in the University of Minnesota ever since that early day.

He was at the head of the St. Paul Medical College when it surrendered its charter to assist in the creation of this College. He has always been eager to promote every advancing step in the progress of medical education. He has been a wise counselor in many a critical experience through which this school has had to pass. Upon the occasion of the celebration of the unification of medical teaching, under the control of the University, in the state of Minnesota, he said reverently, "As a medical teacher, I have seen,—in the words of Holy Writ,—I have seen of the travail of my soul and I am satisfied."

Dr. Stone was a man of remarkable versatility and great personal magnetism. In the fields of medical journalism, of public sanitation, and of political life, his influence as writer, speaker, and actor has been widely felt.

No man in this faculty, or, indeed, in the profession of the state, has been more generally known and more universally beloved. He will be missed by many, both within and without the profession; he will be missed alike in the class-room and in the councils of this faculty; by students and by his fellow teachers; while the "Old Guard" of his colleagues, which has served with him for more than a quarter of a century—for well-nigh the lifetime of a generation—will hold in tender and affectionate memory the open hand, the kindly greeting, the genial nature, the scholarly training, the eloquent speech, the unreckoning loyalty, the fine, unfailing courtesy—finest fruit of a rare culture—of the friend who has gone to that bourne, beyond the shadow, whence no traveller returns.

RESOLUTIONS OF THE RAMSEY COUNTY MEDICAL SOCIETY

St. Paul, July 18, 1910.

Mr. President and Members of Ramsey County Medical Society:

The painful duty assigned to your committee becomes

the more grievous because of the close relations with the deceased. Not only has the profession lost a valued and distinguished member, but we personally, and a host of others, both in and out of the profession, have lost a very dear friend.

Dr. Alexander J. Stone was a prince among men, and for many years his premanship in the medical and surgical affairs of the great Northwest was undisputed. Coming to Minnesota when but a boy in years, he quickly assumed the commanding station he was so well qualified to occupy.

He was the first man in Minnesota to take up and practice the specialty of gynecology. He established, and ably edited for a number of years, the first medical journal published north and west of Chicago. He established the bacteriological laboratory in the City Health Office and for eight years served most acceptably as Health Commissioner.

His was the moving spirit in the organization of the St. Paul Preparatory Medical School and of the St. Paul Medical College, which in 1888 was merged into the Medical Department of the University of Minnesota. Of that college he was the president and "general factotum," his wide information and happy facility of expression enabling him to fill any chair at a moment's notice. He taught gynecology and after the merger became professor and chief of that department in the University Medical School, which position he has held ever since. He has been president of the County and State Medical Societies, of the Association of Military Surgeons, vice-president of the American Medical Association, and for ten years was surgeon-general of the State, which position he occupied at the time of his death.

As a deft and skillful operator and teacher he had no superior. His students all over the land will remember him with love and admiration. He was the soul of generosity. Money was not necessary to secure his services. No person ever appealed to him in vain for help, and many poor women who have been restored to health by his dextrous surgery, will "rise up and call him blessed."

He was essentially the friend of the young physician. Many a prosperous practitioner of today will recall the time when, "down on his luck" and discouraged beyond measure, the cheery optimistic Dr. Stone held out to him a helping hand, and by wise counsel and often material assistance made the clouds roll by.

To his personal friends he was very dear, and to none more than the writers of these lines. And when we think that we never again shall hear that jolly laugh, or feel the grasp of that friendly hand, our sorrow is overwhelming. In the words of Hamlet: "He was a man; take him for all in all, I shall not see his like again."

Now, therefore, your committee respectfully recommends the adoption of the following resolutions:

Resolved, that the sentiments contained therein, and the expression of affectionate regard written in the above preamble, are cordially accepted by every member of this Society as his personal feeling in the matter.

Resolved, that the loving sympathy of the members of the Ramsey County Medical Society is hereby extended to the widow, son, and sister of our deceased friend and member.

Resolved, that the above preamble and resolutions be spread upon the minutes of this Society, and that an

engrossed copy of the same be forwarded to his family.

PARKS RITCHIE,
HOWARD LANKESTER,
BURNSIDE FOSTER,
Committee.

TESTIMONIALS FROM THE PROFESSION

By DR. WM. DAVIS

Few men are endowed with as many of the qualifications necessary for the successful practice of medicine as were possessed by Alexander J. Stone: cool and deliberate in judgment, courageous without rashness in action, he invariably inspired confidence. To unusual manual dexterity he added the unrelated quality of fluent and accurate speech that enabled him to make clear and precise statements. He had the happy faculty of knowing just the right thing to say, and he always said it.

Dr. Stone was everybody's friend. The brotherhood of the profession was to him real, and both on a large and a small scale he was ever most hospitable. He was one of a few, unfortunately a very few, against whom can be recorded no word in disparagement of a single one of his professional competitors.

By DR. PARKS RITCHIE

Dr. Stone was a Genius, with a big G. That for which the rest of us were compelled to dig, and dig hard, came to him by intuition. At one time he must have been a student, for he was wonderfully well informed on every subject pertaining to medicine or surgery. He had a prodigious memory. With but a superficial knowledge of bacteriology, without notes and with scanty preparation, he made an address last year on that subject at Duluth which was a "classic."

In the early days of our medical school he taught obstetrics and gynecology, but when the professors of anatomy, or chemistry, or surgery, or physiology were absent, without notice and without time for preparation, he took up their burdens with enthusiasm and success.

His versatility was not limited to medicine and surgery. He told me many years ago that at one time he was as much at home in the pulpit as on the lecture platform. He was a political stump-speaker of considerable renown. A Maine democrat of the old school, without hope or expectation of reward, he would stump the state for his party, and has often remarked to me that it was to him a most delightful recreation.

He was essentially the friend of the poor, and always responded to their call, whether they were "worthy poor" or not. He was continually imposed upon by the "chronic grafter," but many poor women who were restored to health by his deft surgery will remember him in their prayers.

He was intensely loyal to his profession. To paraphrase a familiar quotation: his motto was, "Our profession, may we always be right, but, right or wrong, our profession!" He was especially the friend of the young physician, and no one ever appealed to him in vain.

He was the most dexterous operator in plastic surgery I have ever seen. That was his special line, but he knew no limitations.

Last, but not least, he was a loyal, loving friend.

Those who enjoyed the privilege of his close and confidential friendship were few, but they rejoice in the memory of that friendship; they mourn his loss and refuse to be comforted.

By DR. E. J. ABBOTT

When I arrived in Minnesota in the spring of 1876, a total stranger, not knowing a person within the state, one of the gladdest hands extended to me was that of Dr. Alexander J. Stone. A comparatively young man, and a recent comer himself, he had forged his way well on to the front, to a recognized place in the profession of the city and state. Surgery in those days was not what it is at present, asepsis and antisepsis were unknown, but I thought at the time and still think that Dr. Stone was one of the most graceful wielders of the knife that it had ever been my privilege to see. Using the knife and scissors with the left hand almost as well as with the right, he certainly was a beautiful operator. Add to this the genial presence, the kindly word, and warm shake of the hand, and the general spirit of optimism which was always around him and a part of him, he was, taken altogether, such a man as we seldom meet and one "whose like we may not look upon again."

Always the friend of the poor, sick, and needy, and especially the friend of the young and struggling physician, he had a kind word for all, or nearly all. In my long acquaintance with him I never heard him speak an unpleasant word of but one physician,—I think there are few, if any of us, of whom as much may be said,—and in that case the remarks were justified.

By DR. JAMES E. MOORE

I first met Dr. Alex. J. Stone in the fall of 1882 at a meeting of medical men, when he made a profound impression upon me, as an exceptionally brainy man, an eloquent speaker, and a whole-souled, genial gentleman; and through all the intervening years of close professional acquaintance he has held the same high position in my estimation. He was always the friend of the younger medical men and has through his teaching and practice had much to do with the high ethical standard of the profession in St. Paul and throughout the Northwest.

We shall miss him sadly in the University, where he has always been an ever-ready helper in our efforts for higher and better standards.

By DR. F. A. DUNSMOOR

I had been out of town and only just learned of the death of Dr. A. J. Stone of St. Paul, more truly of the entire state and nation.

I first met him when I was a beginner in medicine in 1873, and I recall with much pleasure his invariable and extreme kindness to all medical students and recent graduates seeking locations or advice of any sort. In an intimate association of thirty-seven years I never heard Dr. Stone criticise unfavorably any member of his profession. Whatever he had,—books, instruments, home, or stable,—was held at the wish of the borrower.

It was through his invitation that I first became associated with the St. Paul Medical College, and a few years later, with the consultation of Dr. Millard, Dr. Stone as dean of the St. Paul Medical College, and the writer as dean of the Minnesota Hospital College, arranged for the organization of the medical department

of the University of Minnesota. Dr. Stone's high regard for his profession, above any personal ambition, was there distinctly manifested.

As a true evidence of the universal extent of the affectionate regard in which he was held by the profession, I remember that when traveling in any other state or country, and reporting that I was from Minnesota, the almost invariable first query was, "How is Stone?"

I must bear testimony to the numberless journeys Dr. Stone made to neighboring towns when a member of a physician's family was ill, or the doctor in a damage-suit, without a thought of recompense; and to his constant cheer, good humor, and happy companionship. I never saw him despondent.

It is reported as a fact that he furnished burial place for poor patients in his cemetery lot until there was no room for his own body.

We all mourn a genial, courteous, loving, patriotic friend and brother.

BY DR. JOHN W. BELL

It was my good fortune to form the acquaintance of Dr. A. J. Stone more than a quarter of a century ago, an acquaintance which ended, as every acquaintance must with this genial, courteous, and large-hearted man, in an enduring friendship.

Dr. Stone, in addition to a well-grounded literary and professional education, possessed, in a remarkable degree, an invaluable asset in the form of a sunny, happy, sympathetic nature, which endeared him to all and made him a power in all things medical. During my long acquaintance with this genial man I do not recall having ever heard him speak an unkind word or utter a harsh criticism of a brother practitioner; he would discuss and criticize measures freely, individuals seldom, if ever. Always optimistic and cheerful, he was by no means a negative character: in debate and discussion he had no superior and few equals in the profession.

Dr. Stone did many an act of kindness which will long be remembered by the recipients. He aided many a struggling physician by words of encouragement and financial assistance; he gave generously, often beyond his means, to aid every laudable professional effort and enterprise.

In the passing of Dr. A. J. Stone to join the invisible majority, of one thing we are assured, that the world is better for having sheltered for a few brief years this sunny and kind-hearted man.

BY DR. SAMUEL D. FLAGG

It is always a painful task to say "Hail and farewell" to an old friend, but especially to one so long and highly esteemed as our late friend Dr. A. J. Stone. Yet, sad though it be, it is a pleasure to bear testimony to his many noble characteristics and high professional qualifications.

My acquaintance with Dr. Stone began soon after he settled at Stillwater, through a physician from Massachusetts, who was spending some time here under my care for his health, and this acquaintance ripened into a pleasant and valued intimacy after his coming to St. Paul.

I was early strongly impressed by his enthusiasm in all professional matters and especially in regard to his own dearly loved specialty, in which, as the years rolled along, he achieved such success.

In the earlier days of Dr. Stone's residence here great

advances in medicine were dawning, notably in that branch about which he was so enthusiastic, and these he grasped and discussed in his vigorous style, and I think I may say with the endorsement of our remaining colleagues that this intelligent activity on his part did much to call our attention more distinctly than reading to modern views and methods, making, if one may say so, a sort of epoch in medical matters in this then somewhat remote section; and may I express the hope that those who have more recently joined the ranks of our profession will bear this in mind as related to the medical history of Minnesota.

He loved to teach medicine, and one of my pleasantest recollections is my close association with him in, as far as I know, the first attempt at establishing a school for medical teaching in the state. To this humble beginning he brought his unbounded cheerfulness, optimism, and most strenuous exertions; and these characterized his efforts in that larger field of medical instruction, which, compared with the humble beginning, is as the full-grown blossoming tree to the tiny seed from which it sprang. His pupils and those whom he assisted with his advice are a monument to his capacity as a teacher and his ever kindly readiness to throw light on places that are dark to others.

Brilliant as Dr. Stone was in matters pertaining to his profession, so was he kindly sympathetic and ever ready to labor hard and continuously for anything that promised good to the profession or its individual members.

He was not critical of others, or of any views they held differing from those he might strenuously advocate.

His cordial, pleasant ways made him numerous friends, many of whom have expressed regret that they did not know of his illness and so were unable to send him assurance of their regard.

His memory will be held in kindest and appreciative regard by those who knew him longest and best, and it is with pleasant recollections of many, many years that the writer adds this imperfect leaf to the wreath we weave for our departed friend.

BY DR. J. M. LEWIS

Dr. Stone was the most unselfish, upright professional gentleman I have ever known. More people, including physicians, are indebted to Dr. Stone for his skill and generosity than to any one man in the state of Minnesota.

BY DR. FRANK C. TODD

Although I did not know Dr. Stone intimately I have known him for many years, first, as a teacher and, later, as a colleague in the profession and in the medical faculty. He had many good points which are well known to all who came in contact with him, but the thing which impresses me most strongly as I recall his characteristics to my mind is the fact that I never heard him give utterance to any statement derogatory of any physician, but, on the other hand, he seemed to take every occasion to express appreciation of the good points of his fellow practitioners, not that he said good things about men which were not true, but he seemed to have the faculty of recognizing the good qualities. If he also saw the bad ones he kept them to himself. I daresay that in his practice he carried out the same policy and did not criticize the work of others, though he must have seen much work done by others

which could have been criticised. If all physicians were to follow more nearly this course, such things as malpractice suits would be very rare, at least against good men.

BY DR. JUSTUS OHAGE

The old Roman need not have written: "De mortuis nil nisi bonum," had he known Doctor Alexander J. Stone, for no one ever spoke ill of him in life much less so in death. Ian McLaren might have used his name instead of that of William McClure in his "Bonny Brierbush" and placed that wreath of lyric pearls upon his brow which immortalized that noble Scotch physician, that great humanitarian who neglected his own comfort for the sake of others whom he healed and comforted.

Alexander J. Stone was a noble type of the humanitarian physician whose whole soul was wrapped up in the welfare of his patients and the love of his profession. He was not tainted with professional commercialism; earthly riches had no charm for him; his motives were higher, loftier.

To know him was a privilege, to be his friend an honor. His death is a loss to mankind, and it leaves a vacancy in our profession hard to fill.

We revere his memory for his love of man, his devotion to his calling, and his kindness to his younger colleagues whom he was always ready to help, of whom he never spoke an unkind word.

BY DR. J. L. ROTHROCK

The personal characteristics of Doctor Stone were so well known to the profession of the Northwest that it is perhaps superfluous to speak of them. His dignified, kindly, courteous manner endeared him to all alike, both patient and colleague. While he loved a fight where principle was involved, in times of stress and dissensions in the profession his mere presence was like oil on the troubled waters, and it is safe to say that there was no one in the profession whose influence in harmonizing warring factions was so great.

But to those of us whose good fortune it was to have been professionally associated with him, there were traits of character worthy of emulation. His ever-ready good word for his friends, and even for his enemies, for he bore malice to no one, entitles him to the rare distinction of never having spoken ill of anyone. He seemed to be absolutely free from the petty jealousies, envy, and suspicion which so frequently mar an otherwise beautiful character. He was able to rise above these frailties of human nature, and if they ever tormented his peace of mind he gave no outward evidence of it.

I have often marveled at the stoicism with which he bore up under adversity. Always with the same cheerful demeanor and an optimism which was truly refreshing. There is perhaps no one who has been so closely identified with the development of medicine of the Northwest, and his influence will be felt long after his name is forgotten.

BY DR. F. M. ROSE

Words seem inadequate to express the very high appreciation we had of Dr. Alex. Stone. We are left to mourn the loss of a bright star in the profession and personally one of the most generous, unselfish friends a man ever had, always a gentleman and ever ready to prove up his friendship. I am voicing the

feelings of hundreds of people who have felt the effects of his great heart. Personally, I wish to go on record in saying that no man ever had a truer or more unselfish friend. I have known him intimately for forty-three years, and his many virtues grow greater with years. The great and good Dr. Stone is at rest; we are the sufferers.

BY DR. H. H. KIMBALL

The death of Dr. A. J. Stone has taken from the medical profession of this state, as well as from the community at large, one of the most polished and highly cultured medical men of his time. He was a noble, manly physician. He was always true to, and especially ethical with, his associates. He was generous and genial. He did more than any other physician in the state in bringing about the high standard the medical profession of the Northwest now enjoys.

BY DR. DAVID OWEN THOMAS

Dr. Stone held an honorable place in our profession, and through his ability and pleasing personality was popular in the counsels of our State Medical Association.

Others who enjoyed closer fellowship with him are better qualified to speak of him in his choicer friendships, but this intimacy was not necessary to discover that his early training and opportunities had been exceptionally good, and had given him the preparatory culture and vision so essential to the study of medicine and to success and eminence in the profession.

In social relations he adhered ever to the ideal which every practitioner should emulate, for, unobtrusive and differential, he was a type of physician who always bears the charm of the true gentleman.

In his wonderful activity he imparted the cheer of optimism, the dash of competency, and the generosity of complete unselfishness.

His spirit of comradeship and fair-play made him the friend of the young physician; and all new men coming to Minnesota received his cordial welcome and encouragement.

MISCELLANY

MEMORIAL TO DR. CHARLES N. HEWITT

Adopted by the Faculty of the College of Medicine and Surgery of the University of Minnesota, July 20, 1910

The Faculty of the College of Medicine and Surgery of the University of Minnesota desires to avail itself of the privilege of offering to the family of Dr. Charles N. Hewitt its sincere regret over the tidings of his death.

It finds its privilege in the threefold function which Dr. Hewitt, during his long and useful lifetime, sustained to the profession of medicine: first, as a practitioner of medicine of devoted service; next, as the first and a most able executive of the State Board of Health—a pioneer in this field who blazed a way through many

difficulties to the development of an organized sanitary system; and, finally,—a fact of great significance to this body,—as the original proponent of the establishment of a department of medicine in the University of Minnesota.

It was he who presented to the Board of Regents a petition for the creation of this College under the constitutional act upon which the University rests; he was one of a committee of three who formulated the plan upon which it was organized; he was a member of the first non-teaching faculty of medicine; and he was one of those who realized that the time had eventually come when the University should enter the teaching field and who foresaw its destiny as the controlling factor in determining the future of medical education in the state. This University, this faculty, and the profession of medicine in the state owe to Dr. Hewitt a debt of gratitude for the important part he played in the determination of these results, and it is eminently fitting that this acknowledgment should be offered as a tribute to his memory.

The condolence of the Faculty is presented, with deep respect and appreciation, to the family of Dr. Hewitt.

IMPORTANT NOTICE FROM THE LABORATORY OF THE STATE BOARD OF HEALTH

The Minnesota State Board of Health calls the attention of all Minnesota health officers and physicians to certain changes in the routine of the Laboratory Division.

Diphtheria Examinations.—The Board has adopted a new outfit for diphtheria specimens which may be sent lawfully by mail or express to the Laboratory. The new outfit will be issued as rapidly as possible in exchange for the old style outfit. It consists of a cylindrical screw-top tin can lined with heavy paste-board for the protection of a similar can snugly fitting inside it which carries three test-tubes wrapped in absorbent cotton. Two of these tubes contain blood-serum culture-medium, and the other holds two swabs to be used for nose and throat specimens as follows:

DIPHTHERIA OUTFIT

Laboratory Division, Minnesota State Board of Health.
Care University of Minnesota, Minneapolis.

DIRECTIONS FOR COLLECTING AND FORWARDING SPECIMENS FOR DIPHTHERIA EXAMINATIONS

For Throat Specimens (use marked serum tube).

1. Thoroughly rub one swab against any visible exudate, if present, otherwise against all injected mucous membrane of the fauces and pharynx.

2. Do not lay the swab down or allow it to touch anything else than the surface of the serum over which it should be rubbed firmly without breaking through.

3. Replace the cotton plug in the serum tube, break off the protruding end of the swab and fit the rubber cap over the mouth of the serum tube, leaving the swab inside on the serum.

For Nose Specimens, (use serum tube not marked).

These may be easily procured from children by the following method:

1. Physician should stand behind the sitting* patient and, with his left hand on the patient's chin, hold the head firmly against his body. With the right hand insert the swab about one-half inch upward into the right naris, then raise the hand so that shaft of the swab is parallel to the floor of the naris and, with gentle rotation, pass the swab back to the posterior pharyngeal wall. Withdraw the swab and repeat in other naris. Always note on the data blank any reason of failure (enlarged turbinates, etc.), if the operation was unsatisfactory.

2. Do not lay the swab down or allow it to touch anything else than the surface of the serum over which it should be rubbed firmly without breaking through.

3. Do not leave nose swab in the serum tube, but carefully replace it in the swab tube, plug both tubes and fit the rubber cap over the mouth of the serum tube.

Wrap the tubes as they were, place them in the small can upside down, place this can together with the data blank in the mailing case upside down and mail or express immediately to the laboratories.

Do not use dry or contaminated serum. Send such outfits to the laboratories and request fresh ones in exchange.

*This position is preferable when the patient's condition allows it.

F. F. WESBROOK,
Director.

A copy of the above directions and a data-card are enclosed in the can. The data-card has been modified and now is as follows:

DIPHTHERIA DATA

Please fill out this blank in full and place around the small can.

Date and hour of taking culture.....
.....Is this the first culture?.....
Patient's Name
AgeSex.....*Township, Village,
City—Residence
CountyPost Office
Address
Physician's Name
Address
Health Officer's Name.....
Address
Clinical diagnosis.....
Is membrane present?.....Temp.....
Date of first symptoms.....This examination is
*For bacterial diagnosis. For release from quarantine.
Do you desire a telegraphic report?.....
(On request, telegraphic reports are sent, collect, to the attending physician.) *Strike out words that do not apply.

The convenience of the mail service for transmission of specimens is obvious. It has been desired by physicians and boards of health for many years, but until April 22, 1910, the U. S. Postal Laws did not permit the use of an outfit suitable for routine diphtheria work throughout a territory as large as Minnesota. Now there will be no excuse for delay of specimens sent to the Laboratory, since the sender may secure immediate delivery of the package upon its arrival in Minneapolis by affixing a special delivery stamp in addition to the regular postage.

Packages may be sent by prepaid express when desirable on account of the cheaper rate on a bundle containing several outfits and when there is no emergency, but the sender should remember that in the past delays in express transmission have occurred in spite of every effort on the part of the Laboratory to avoid them, and he should act accordingly. All outfits issued by the Laboratory will be sent by express, collect, to the health officers and physicians requesting them.

Sputum Examinations.—The recent modification of the Postal Laws also requires a change in the sputum mailing-outfit. This is merely the addition of an inner cylindrical screw-top tin can to hold the bottle containing the sputum. The regulations do not require that sputum sent in this container shall be carbolized, and it is believed that better results can be obtained from the examination of fresh sputum, since carbolized sputum has certain disadvantages for microscopic work.

Bacteriological Examinations of Spinal Fluid.—Sterile collection outfits for spinal fluid with full directions and case-history sheets are available, and free examinations are part of the routine Laboratory work. Reports will be made promptly upon all specimens accompanied by the required data. Dr. Flexner has announced that the Rockefeller Institute will discontinue within a few months the supply of serum now issued free of charge through the State Board of Health Laboratory for the treatment of epidemic cerebrospinal meningitis. As soon as the supply of the Laboratory has been exhausted physicians must provide themselves with the serum now put out by the manufacturers of biological products.

The Laboratory will continue its aid in the diagnosis and study of cases of poliomyelitis and all forms of meningitis, provided the directions for collecting and forwarding specimens and data are complied with.

REPORTS OF SOCIETIES

THE SOUTHWESTERN SOCIETY

The Society met at Luverne on July 14th, with 20 members and 10 other physicians present. The President's address, "A Study of 1,100 Recent Prescriptions," was given by Dr. Ray Humiston, Worthington. Dr. Humiston's study shows a gratifying decrease in the prescribing of proprietary mixtures over similar studies made some years ago. It appears that the work of the Council on Pharmacy and Chemistry of the A. M. A. is bearing good fruit, that fewer physicians now act as the unpaid agents of nostrum-makers. The members were urged to provide themselves with copies of the Pharmacopœa, National Formulary, and New and Non-Official Remedies, and to confine themselves in prescribing to drugs of known composition and therapeutic action.

Other papers were: "Some Hysterical Enigmas," by Dr. Thomas Lowe, Pipestone; "A Biographical Sketch of Bartolommeo Eustachio, Anatomist, with Exhibition of a first edition of his *Tabulæ Anatomicæ*," by Dr. G. G. Cottam, Rock Rapids, Iowa; "Clinical Reports—Case of Secundines Retained Two Years after Abortion," by Dr. W. J. Taylor, Pipestone; "Case of Empyema," by Dr. G. G. Balcom, Lake Wilson; "Case of Cleft-palate," by Dr. A. B. Williams, Wilmont.

The following physicians were elected to membership: Dr. L. I. Aldrich, Rushmore; Dr. Bruce D. Hart, Round Lake; Dr. Eugene S. McKeown, Edgerton; Dr. Justin Smallwood, Worthington.

The following resolution was unanimously adopted: "Be it resolved by this Society, that for a physician permanently located in a town or city to maintain an office or place of consultation in another locality where one or more qualified physicians are in practice, is unprofessional; and that persistent practice of this kind by a member of this Society shall be deemed sufficient ground for expulsion."

The next meeting will be held at Worthington on the second Thursday in January next.

EMIL KING, M. D., Secretary.

WABASHA COUNTY SOCIETY

The Society met at Millville on July 7th with twenty-one physicians present, twelve being members of the Society. Papers were read as follows: "Report of a Case of Triplets," by

Dr. Henry McGuigan; "Consideration of the County Care of Tuberculosis Cases," by Dr. E. L. Tuohy, of Duluth. The discussion of Dr. Tuohy's papers was opened by Dr. E. H. Bailey and continued by each member of the Society. Dr. E. A. French, of Plainview, gave a clinic, and Dr. M. J. Shaunessy, of Wabasha, read a paper on "Some Recent Surgical Experiments." Dr. J. C. Adams, of Lake City, presented a paper on "Combination and Competition."

Officers were elected as follows: President, Dr. E. A. French, Plainview; vice-president, Dr. M. J. Shaughnessy, Wabasha; secretary-treasurer, Dr. W. F. Wilson, Lake City; delegate, Dr. W. J. Cochrane, Lake City; alternate, Dr. E. H. Bayley, Lake City; censor (for three years), Dr. J. A. Slocumb, Plainview.

The next meeting to be held at Plainview.

W. F. WILSON, M. D., Secretary.

NEWS ITEMS

Dr. A. L. Vadheim, of Hills, has moved to Tyler.

Dr. A. E. Ahrens, of St. Paul, has returned from Europe.

The hospital at Nashwauk has been remodelled and enlarged.

The Lutheran hospital at Rugby, N. D., was dedicated last month.

A hospital has been established at Monte. It is modern and well equipped.

Dr. H. J. Thornby, State University, '09, has moved from Dawson to Lake Park.

Dr. C. M. Pierson, of Ambrose, N. D., is doing post-graduate work in Chicago.

Dr. A. A. Stemsrud, of Dawson, has gone to New York City for post-graduate work.

Drs. T. J. Ward and B. H. Sprague, of Huron, S. D., are conducting a private hospital.

Dr. I. W. Leighton, an '09 graduate of Northwestern, Chicago, has located at Scotland, S. D.

Dr. A. E. Sohm, of Buffalo, N. Y., has formed a partnership with Dr. J. M. Edwards, of Mankato.

Dr. B. S. Dearborn, of Minneapolis, informs us that he is not to leave Minneapolis, as has been reported.

Drs. Will and Arthur Nichols, of Fargo,

N. D., have become partners under the firm name of Nichols Bros.

The physicians of Williams County met at Williston, N. D., last month and organized a society. A uniform system of fees was adopted.

Dr. John Buser, who for the past three years has been on the staff of the Biwabik hospital, has located in private practice at Delavan.

Dr. W. B. Rogers, surgeon of the Oliver Mining Co. at Marble, a new town on the Range, has left the company, and moved to Butte, Montana.

Dr. O. W. Sterner, of Cambridge, has rented a building for the occupancy of his hospital, and he will equip it with all modern hospital appliances.

Dr. George F. Kaufhold, of Duluth, was killed last month in an automobile accident. Dr. Kaufhold was a graduate of the State University, class of '09.

Duluth has established a free dispensary to deal exclusively with cases of tuberculosis, and only cases recommended by the Associated Charities will be treated.

Montevideo's new hospital, which cost \$25,000, was opened last month. The citizens of Montevideo, as well as of a large surrounding country, are greatly pleased to have a high-grade modern hospital.

Dr. F. S. Howe, of Deadwood, S. D., has been appointed a member of the South Dakota State Board of Medical Examiners to fill the vacancy created by the resignation of Dr. H. E. McNutt, of Sioux Falls.

The St. James Sanitarium has opened Turkish and Russian bath-rooms, which will be open to the public as well as to patients. Such rooms should be a source of considerable income and be of great value to regular patients.

The University of North Dakota, which gives only two years in medicine, has added a nurses' training course. Miss Bertha Erdmann, well known in Minneapolis and throughout Minnesota, will be director of the course.

Duluth has a medical "masseur" who reached his limit the other day when he mistook a case of smallpox for something else and prescribed a plaster for the face. He charged \$3 for the medicine, but nothing for his services. He was fined \$95.

Fourteen new rooms and an operating-room are being added to St. Luke Hospital of Duluth. The News-Tribune of that city gave a special edition to the ladies who are raising funds for the hospital. No doubt, a large sum will be thus realized.

The Grand Forks (N. D.) District Medical Society held its annual meeting last month and elected the following officers: President, Dr. W. H. Bates, Grand Forks; vice-president, Dr. B. D. Lamery, Inkster; secretary, Dr. W. C. Wilson, East Grand Forks; delegates, Drs. J. Grassick and G. J. Gislason, both of Grand Forks.

Glenwood has shown itself to be one of the most enterprising villages in the state in its successful efforts to have a hospital. The entire amount called for has been raised. A farmer who contributed \$500 said he wanted no dividends, but he needed a proper place to send members of his family in case of emergency. The presence of a well-equipped hospital in a community has a large value to every family of that community even though it may never be used by such family.

ADDITIONAL NAMES FOR THE ROSTER

The following names are to be added to the roster of the Minnesota State Medical Association:

Aldrich, L. I.....	Rushmore
Benedict, E. E.....	Minneapolis
Cheleen, S. J.....	Minneapolis
Dewey, G. W.....	Fairmont
Gilkey, S. E.....	Minneapolis
Gullixson, A.....	Bricelyn
Hobart, A. J.....	Wells
King, E. A.....	Minneapolis
May, W. H.....	Minneapolis
Urstad, O. H.....	Kiester
Williams, J. Walter.....	Minneapolis
Wright, Swan G.....	Minneapolis

PRACTICE FOR SALE

I will sell my practice of \$3,000 or better in Western Minnesota to the man who will buy my office fixtures and outfit consisting of a static machine, x-ray outfit, electric motor and dynamo, nose and throat outfit, chair, etc., amounting to \$600. Field a fine one with no opposition. Address M. E., care of this office.

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X-ray machine and base, air-pump, operating-table, rockers, chairs, tables, book-case, mirrors, office furniture and fixtures. This lot of doctor's office equipment

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An unopposed practice in Southwestern Minnesota worth from \$2,500 to \$3,000 a year can be had for \$400. Do not write unless you want the place at the price. Address D. E., care of this office.

PHYSICIANS LICENSED AT THE JUNE, 1910, EXAMINATION TO PRACTICE IN MINNESOTA

UPON EXAMINATION

Brey, Frank W.....	U. of Minn., 1910
Cavanor, Frank T.....	U. of Minn., 1910
Christiansen, Andrew.....	U. of Minn., 1910
Cole, Wallace.....	U. of Minn., 1910
Currer, Paul M.....	P. & S., Chicago, 1910
Dickson, Thos. Hunter, Jr....	U. of Minn., 1910
Hoff, Alfred.....	U. of Minn., 1910
Hoiland, Angell S.....	U. of Minn., 1910
Kramer, Edward R.....	Jefferson, 1910
Lysne, Henry.....	U. of Minn., 1910
McEwan, Samuel Wilson...	U. of Minn., 1910
Moore, Chas. Ulysses.....	U. of Minn., 1910
Morss, Clarence Rupert....	U. of Penn., 1908
Nelson, Axel Svene.....	Northwestern, 1910
Nordin, Chas. G.....	U. of Minn., 1910
Ohage, Justus, Jr.....	U. of Minn., 1910
Oppegaard, Manford O.....	U. of Minn., 1910
Petit, Leon Julien.....	Hamline, 1910
Piper, Monte Chas.....	U. of Minn., 1910
Preine, Irving A.....	U. of Minn., 1910
Satersmoen, Theo.....	U. of Minn., 1910
Schneider, Edwin H.....	U. of Minn., 1910
Simons, Jalmar Heinrich....	U. of Minn., 1910
Souba, Frederick J.....	U. of Minn., 1910
Wheeler, Merritt W.....	U. of Minn., 1910
Watson, Earl Maurice.....	U. of Minn., 1910
Yoerg, Otto Wm.....	U. of Minn., 1910

BY RECIPROCITY

Akester, Ward.....	Med. Col. of Indiana, 1902
Coulter, Heber Wilson.....	Trinity, 1903
Gialloreti, Vincenzo..	Royal U. of Naples, 1892
Hallenbeck, Dorr Foster....	Northwestern, 1908
Henriksen, Henry G.....	Bennett, 1897
Hirschboeck, Frank John....	Marquette, 1908
Kamp, Byron A.....	Drake, 1909
Kemp, Alphonse Frank.....	St. Louis, 1909
Knight, Samuel Graham.....	Toronto, 1908
Lowe, Roy Chester..	Hahnemann, Chicago, 1906
Nauth, Walter Willard....	P. & S. of Wis., 1907
Powers, Fred Harwood.....	Rush, 1900
Prudden, Clyde Edward....	Northwestern, 1909

PUBLISHER'S DEPARTMENT

THE LEWIS-PAINTER CO.

Mr. William Painter, who has become associated with the Lewis Equipment Co., of Minneapolis, under the above new name, brings to the company an experience and a personality that will be helpful to physicians who may have dealings with the company. He was for a number of years connected with the R. V. Wagner Co., of Chicago, and established their Pittsburgh branch, thus becoming an expert in electrical and x-ray appliances. He knows medical men and how to meet their wants in all office appliances; and now he comes to a company that is to be a permanent establishment in the Northwest.

Mr. Lewis is himself a thoroughly equipped man for the work, but, unfortunately, he could not be in the country and in his office at the same time to give his personal attention to both taking and filling an order. A good man at each end of the line means orders properly and promptly filled, and also the success of the business.

We believe the Lewis-Painter Co. will be always found dependable, and that means satisfaction to their customers.

A NEW PREPARATION FOR HAY FEVER

Dr. J. E. Alberts, of The Hague, has directed the attention of the medical profession to a new combination which is astringent and locally anesthetic in effect, but which is non-toxic and devoid of the ill effects of cocaine. The new combination contains one part to twenty thousand (1:20,000) of adrenalin chloride and ten per cent of para-amido-ethyl-benzoate, made up into a bland ointment, to which has been given the name of Anesthone Cream.

When applied to the mucous membrane of the nares Anesthone Cream has a persistent anesthetic effect which affords marked relief in hay fever. Inasmuch as para-amido-ethyl-benzoate is only slightly soluble in aqueous fluids, its anesthetic action is prolonged. It does not have the poisonous effect of cocaine upon the protoplasmic element of cells, nor does it depress the heart. Furthermore, there is no tendency to "habit" acquirement.

In a tabulated series of cases collected by the Department of Experimental Medicine of Parke, Davis & Company a very large proportion were very much benefited.

Anesthone Cream is supplied in a collapsible tube with an elongated nozzle. A portion of the Cream about the size of a pea is to be applied to the nasal mucosa three or four times a day, or more frequently if necessary, including the time of arising in the morning and retiring at night.—Therapeutic Notes.

THE IMPORTANCE OF STANDARDIZATION

The vegetable drugs used in medicine cannot always be grown under the same conditions. The soil, the season, the gathering time, the temperature—these are variable factors. Consequently, one cannot reasonably expect that the amount of medicinal substance in root, leaf, bark or seed will be constant. Two lots of digitalis leaves may look exactly alike to the experienced

botanist, yet in content of active principle they may differ widely. As a matter of course, preparations of drug-plants must be variable in strength if made according to the antiquated method whose basic idea is that one kilo of crude drug will produce one liter of fluid extract. Suppose that the two lots of digitalis leaves referred to were extracted or percolated by the same operator, in the same manner, and during the same period of time. Would the products be of equal therapeutic activity? Obviously not. In each case the drug would be made to yield one liter of fluid extract, but this very fidelity to pharmacopoeial direction would carry over to the finished product the inequalities present in the crude drug.

The only way to secure uniformity in drug products is to standardize them—in other words, to adjust them to definite strength by systematic assay, chemical or physiological. This principle is now pretty well recognized by our leading pharmaceutical manufacturers. In fact, it is to one of the manufacturers, in all probability, that modern medicine owes much of its scientific character. Reference is here made to Messrs. Parke, Davis & Co., who were the first to enter the fields of both chemical and physiological assay and who have practiced and preached standardization for a third of a century.

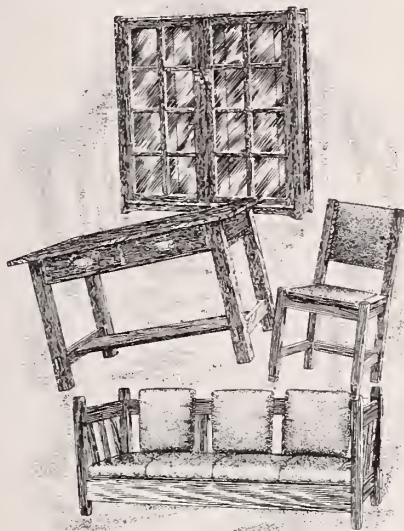
It is a healthful sign that the medical practitioner of today is giving serious thought to the subject of quality in medicinal preparations, for it is a logical assumption that the pharmaceutical market contains many therapeutic agents of very doubtful value. The physician has an obligation to himself and to his patient—an obligation which does not cease with the mere writing of a prescription. His further duty lies in assuring himself that the best quality of drugs shall be used in the compounding of that prescription. And this duty is performed through specification of the brand—a brand that he knows is reliable.

THE REMEDIAL VALUE OF IRON

Amid all the doubt that modern skepticism and therapeutic nihilism have aroused in the professional mind, in regard to the medicinal or drug treatment of disease, we have yet to hear any question as to the distinct value of iron in anemic, chlorotic and generally devalitized conditions. This metal is, indeed, the physician's mainstay in such cases, and cannot successfully be omitted or replaced. There does exist, however, considerable difference of opinion as to the method of administering iron and as to the most generally eligible preparation of same. The tincture of the olden times, prepared from iron filings, has, in these later days, been superseded by the less irritant and more tolerable preparations introduced into modern pharmacy. Among such products none has seemed to be so generally acceptable and promptly assimilable as the organo-plastic form represented by Pepto-Mangan (Gude). The ferrous element in this preparation exists as a true peptonate, in combination with organic manganese, iron's side-partner in reconstructive blood therapy. It is palatable, readily tolerable, quickly absorbable and assimilable and entirely free from irritant or constipating effect. Pepto-Mangan (Gude) rapidly restores vigor to the circulating fluid and because of its blandness and ready tolerability is especially valuable in pediatric practice.

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Formula

Haemoglobin, 10%; other raw uncoagulated albumen, 12% Natural salts of serum. 0.85%; solvent to 100. To this is added 25% of glycerine and aromatics.

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Albuminoid Ammonia	.0025
Chloride	.06
Oxygen absorbed	trace
Nitrates	trace
Nitrites	none

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Special attention is given to Wassermann Serumdiagnosis for syphilis. We are also equipped to make the latest forensic blood-tests.

Reports are sent by mail, telegraph or telephone as requested.

Fee-table mailed on application.

Henry L. Ulrich, M. D., Director

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We have a number of small cottages situated in a small park, on the shore of a small lake, which is indeed the ideal place to recuperate and to cure incipient cases.

RATES: \$1.00 a day. To such as are able to pay, a small extra charge will be made for medical treatment.

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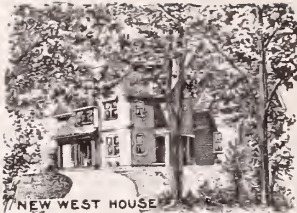
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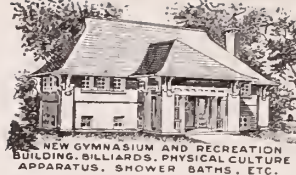
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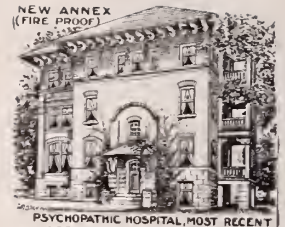


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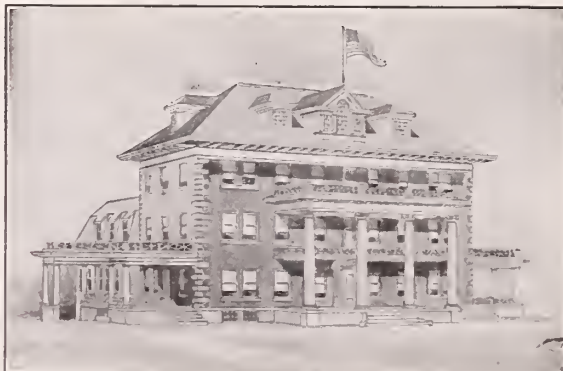
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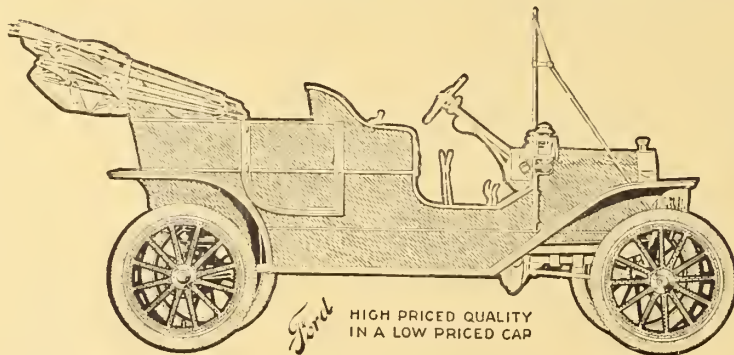
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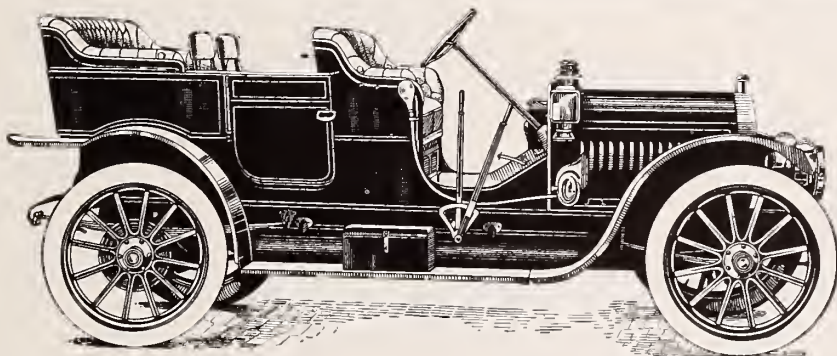
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THE USES OF MORBIDITY REPORTS*

By H. W. HILL, M. D.

Director of the Epidemiological Division—Minnesota State Board of Health

MINNEAPOLIS

This address is presented to you wrongfully, for it ought to be presented before the practicing physician. Addressed to you, it is an explanation to those who already understand, and an appeal to those already convinced, concerning the value and need of complete reports of cases of disease, as well as of death.

Deaths are fairly well reported, although it is probable that the cause as given in the reports is often incorrect. The reason why death returns reach the vital statistician with fair completeness is that the body cannot be disposed of until the certificate is made out. There is an immediate, pressing necessity driving the physician to make a return. There is no such driving force to compel the reporting of cases of disease as yet devised.

Did physicians understand that the certification of a death from a reportable disease not previously reported as a case, would expose him to instantaneous suit at law for not reporting the case before it died, it might be that all cases would be reported under the fear that they might die later. This method has been employed with considerable success in Philadelphia, but it is the desire of our Board and, I think, of all health officials everywhere, to secure the reporting of cases of infectious disease by making it clear to the physician that it is his ethical duty to report them, that it is *the* great service which the physician can render in his

individual capacity to the progress of public sanitation and hygiene, and that it is really shameful for the physician, while professing in his code of medical ethics and in his general "walk and conversation" the highest regard for and the greatest interest in every measure which would promote the public health, to thus neglect the one great service which he alone can properly perform,—the notification of the health officer concerning the existence of infectious disease.

Probably the most important factor in the neglect of reporting by physicians is the absence of a clear understanding on their part of what is done with the reports after they are received by the health authorities. Too often the physician, even the conscientious physician, thinks that his particular case hardly counts and the omission of it from the vital statistics of the state will be a matter of small moment; yet, if there are two thousand physicians in the state and each one neglects to report even a single case of tuberculosis in a year, it is easy to see that an error of *two thousand* cases in the total estimate is at once inevitable. But it is not merely in order to secure information as to the total number of cases in the state that these reports are asked for. The knowledge of the existence of a case of tuberculosis, typhoid fever, etc., at a given point, makes it possible for the health authorities to act immediately. This action consists, first, in tabulating the number of cases of that particular disease present in that

*Read before the Minnesota State Sanitary Conference

locality, and hence gives an opportunity for recognition of the beginnings of possible epidemics. Each local physician may know of one or two cases only, but if all are reported, the State Board will be able to assemble them and know that there are perhaps ten to twenty cases altogether in that locality.

Again, the proper precautions as to quarantine, the supplying of antitoxin, vaccine, etc., the sending of circulars to patients, the making of diagnoses if the diagnoses are in doubt, the notification of the local authorities to take whatever action may be necessary—all rest upon reports from physicians. That these are important to the patient as well as to the community passes without saying. In the immediate application of the report to the existing situation lies a field of tremendous importance to the practitioner in general, as well as to the immediate locality concerned. On the other hand, the facts elicited by the laborious later compilation of the data thus secured relating to the incidence and fatality of the disease, as to age, sex, nationality, locality, the effect of occupations, the increase or diminution of the disease, and, perhaps most important of all, its epidemiological relations (for, in the last analysis, the incidence of fatality, locality-distribution, occupational relations, and particularly the increase or diminution of the disease depend mostly upon factors discoverable by epidemiological investigations, and, once discovered, usually correctable), furnish an immense amount of useful information to the medical man, as well as to public health. If this alone, and not the immediate benefit to the patient and the community resulting from immediate action by the Board, were the only return to be had from careful, conscientious, prompt, early reporting of the infectious disease cases, quite sufficient importance could be assigned to it to make it the professional, as well as the ethical, duty of the physician to report them for his own benefit, if not for that of the community; but when it is remembered that the immediate action taken showing immediate results must be added to the later tabulation and deduction of important rules, the fact that the physician has no higher duty in public health than the reporting of infectious disease cases remains evident.

Some of the reasons why some physicians do not report may be listed here. I have already discussed the principal one, i. e., the failure to appreciate the importance of reporting.

First, *Professional secrecy*.—A very few physicians still think that they owe a duty to the patient to conceal the nature of his disease from the public-health authorities. This point of view has been so thoroughly exploded in the last two or three years in medical, hygienic and even in the lay press that it is scarcely worth following up now. The physician who would in earnest interpose an argument based upon professional secrecy against the reporting of infectious diseases, is too far behind the times to be considered.

Second, *Objection to surveillance*.—Some physicians feel that they are so perfect in their profession that it is an insult to them to consider that anyone else, even the public official, should in any way have the smallest opportunity to appear to revise their work. On the other hand, some physicians feel so little confidence in themselves that they do not report cases for fear the disease should be other than that which they report. These physicians also form a very small percentage of the total.

Third, *Forgetfulness, etc.*—A very common reason frankly acknowledged by many physicians is simple forgetfulness, with others laziness, more often a combination of the two; while the physician who has forgotten to report a case from time to time finally feels ashamed to report it lest he by that act call attention to the fact that he should have reported it earlier, and he prefers to let the case go unrecorded entirely rather than to show by reporting it late that he had been forgetful.

Fourth, *Case too light*.—Physicians often omit the reporting of light cases on the ground that the health department is concerned only with the very marked cases, and it is a curious fact that many a physician who will report a case of typhoid because of its severity will regard a light case as not calling for a report, thereby demonstrating his absolute ignorance or disregard of the fact that the light cases are the ones which particularly tend to spread the disease, and that epidemiological evidence derived from the incidence of the light as well as the severe cases is invaluable, since the epidemiologist deduces his diagnosis of the source of the epidemic from a consideration of the total instances of infection and not merely from the severe cases resulting.

Fifth, *Wrong point of view*.—Perhaps the most basic reason for neglect by physicians of this most important function in public health,

and the reason which sums up all the others, is the individualistic conception which the practicing physician holds of life in general. From the beginning of his acquaintance with the study of medicine to his retirement from practice, full of years and honor, the private practicing physician usually must act from the individualistic standpoint. He deals as an individual with his patient as an individual. What he says and does affects the patient directly and immediately. He is confronting a specific, individual case of disease. It is his duty to relieve and if possible cure that case. To this end every energy is bent and within this field the most faithful, laborious, and self-sacrificing work is done by our physicians; but the very concentration of the physician on the therapeutic side of his work, the very efforts he makes to achieve in that field the very best that it is possible to attain, for the sake of his patient, leads him to forget, to ignore, or to regard as the work of someone else the interrelation with the community which his patient necessarily holds in his capacity as a member of a community, as distinct from his capacity as a case. In other words, the physician almost necessarily lacks the sociological point of view. Almost necessarily he deals with his patients as units and not as parts of the great whole. It seems to me that the time is ripe for a decision as to whether the individualistic na-

ture of the practicing physician should be so recognized and allowed for that we do not ask him any longer to take an active interest in the operations of public health; or, on the other hand, whether we should endeavor to give to the practicing physician the sociological viewpoint and make him far more than at present an active agent of the health authorities. The drift at the present time is towards leaving the physician to his chosen field of therapeutics, asking him to do nothing but report the cases that he encounters and transferring all the public health aspects of the case to the shoulders of the health department. This means a tremendous development of the work with increase in the officials of every board of health in the country, for heretofore physicians have been looked upon as competent, as well as obligated to the community, to act more or less as an unofficial health agent. Whether the viewpoint, that the physician should be nothing but a therapist, or the opposite viewpoint, that he should be practically an agent of the health department, survive finally in the struggle between the two points of view, or not, the fact remains that in every capacity the physician's first great duty to the public health is to notify the health department promptly of the occurrence of infectious disease.

PROBABLE SPINAL CORD LESION FOLLOWING THE PASTEUR TREATMENT*

REPORT OF TWO CASES

By W. A. JONES, M. D.

MINNEAPOLIS

The two cases herein reported were referred from the Pasteur Institute of the State Board of Health in Minnesota.

CASE 1.—History.—The patient, E. N., was a man aged 38, married, carpenter, referred by Dr. J. P. Barber. Father died at 65 of grip and heart trouble; mother living at 70 and well. There were seven brothers and three sisters. One brother died in infancy and one of mountain fever. One sister died of some trouble incident to labor. One brother is insane and one sister is very nervous. The patient is married but has no children. The family history is negative except as above. The patient's general health had been good, and he insisted that he had never been seriously ill.

He admitted an attack of gonorrhea seventeen years before the present illness; he denies syphilis. He used no liquor and had never been seriously injured.

Present Illness.—On March 26, 1908, he was bitten on the thumb by a small pet dog. The wound was small and bled slightly. The dog was acting peculiarly at the time, and subsequently bit another dog which afterward became rabid. On March 28 the patient went to the Pasteur Institute of the State Board of Health Laboratory, where treatment was begun. The wound was cauterized at that time and subsequently healed nicely. Daily treatments were given. The patient said that he had dreaded the injection a great deal, and had been much more nervous than usual since it was begun. On the morning of April 14 he noticed that the entire left leg felt numb. He did not feel very well during the day; the left leg continued numb, and

*Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

the right felt tired when he walked. He did not sleep well that night on account of pains over his entire body and especially in his chest. In the evening he consulted Dr. Barber. His temperature was then 100 and his pulse 88. He had been able to work during the day. On the 15th he could not work. The left leg was still numb and he gradually lost power in the right but had no feeling of numbness there. He slept better the night of the 15th but only after taking a sleeping-powder. He still complained of the pain in his chest, which, he said, seemed like a worm boring its way through.

First Examination.—On April 16 the patient came to the office and was examined. He was chilly and said that when at home he sat most of the time by the stove. He was constipated, though he had taken a laxative. He had a little headache. There was some stiffness in the muscles of the right leg, but none elsewhere. In standing, he was stooped forward with a rather wide base. He complained of numbness in the penis and scrotum, and of a "heavy" pain in the right lumbar region. He had no trouble in urination. He was moderately well developed and well nourished. Pulse was 72, full and regular; temperature, 98.3-5; arteries considerably thickened. Heart and lung examination was entirely negative. The pupils were equal and reacted normally to light and distance. The ocular movements were normal; vision, hearing, taste, articulation and swallowing all normal. The left patellar reflex was increased. There was no ankle clonus and no planter reflex on that side. The right knee-jerk was increased more than the left, and there was ankle clonus and a normal plantar reflex on this side. The reflexes of the arm were practically normal. Pain and temperature sense was lost on the left side of the body from the seventh dorsal nerve downward, including penis and scrotum and perineum. Tactile sense was retained in this area but was diminished in intensity. There was distinct tenderness in the neighborhood of the spinal process of the seventh dorsal vertebra. There was also complete loss of power in the right leg but no disturbance of sensibility for pain, temperature or touch.

Second Examination.—The patient was seen again on May 15. He said that after the last examination he had been in bed with complete loss of power in the right leg for two weeks. As near as could be learned, there had been no loss of power in the left leg. His pain had largely disappeared in three days after going to bed, but at times, if he became cold, he would have an aching pain under the arms and in the dorsal region. On first going to bed he had been given a laxative and stated that after three or four days he had no control at all of his bowel movements, and had some disturbance in urination. At the time of his second examination he had been able to get about for a little time and was doing light work. He said that he felt fairly well, but complained of loss of feeling in the left leg. He said that the seventh dorsal spine was still tender. When examined, there was found to be partial loss of sensibility for temperature and pain on the left side below the seventh dorsal nerve, but much less marked than on the previous examination. Tactile sense was practically normal throughout the body. Muscular power was practically normal in the left leg, and very much improved in the right. Both patellar reflexes continued increased.

There was no ankle clonus and no Babinski. The left plantar reflex was somewhat diminished. Sensation was entirely normal in the face and arms. The scrotal reflex was present on both sides.

Subsequent to this date there is no definite record of the patient's condition. He continued to improve and worked for some time, but there is a report of uncertain value that he had a subsequent relapse, the nature of which is not known.

CASE 2.—History.—The patient was a man aged 28, single, traveling salesman, referred by Dr. J. A. Crosby. His father was living at about 50; temperate and well; mother living at 45; well. One sister died at 6 of "spasms," which she had had all her life. One brother and one sister were living and well. The maternal grandmother died of tuberculosis. Aside from the above there is no nervous or mental trouble, or tuberculosis anywhere in the family. The patient's general health had been good. At 1 year of age had a very severe illness of uncertain character and suffered infection following vaccination at 15; no other serious illness and no injury. He drank moderately. He had had gonorrhoea seven years previously; was fully cured; he denied syphilis. He had had psoriasis since 6 years of age. His appetite was generally very good. He had a rather nervous temperament, and had been troubled somewhat with insomnia for six months on account of engaging in a line of work which had not been very profitable.

Present Illness.—On June 26, 1908, the patient was bitten in the arm and leg by a large Newfoundland dog, receiving some badly lacerated wounds. The wounds were cauterized immediately with carbolic acid, washed with bichlorid solution and dressed. The patient returned at once to Minneapolis. The dog was killed one day later, and there is no positive evidence as to whether it was rabid. It had not previously been known to be vicious. Three days after the patient was bitten, treatment was begun at the Pasteur Institute at the State Board of Health Laboratory, and was continued every day thereafter. The wounds healed well, and, when seen on July 16, there was only a small crust covering the wound on the leg. The patient did not think that he was specially nervous during treatment. After the sixth injection, he had considerable swelling and edema on the abdomen, which was painful and tender. About July 8 he began to feel "flashes of numbness" starting in his heels and traveling over the entire body, lasting but a moment. The next morning, on waking, he found himself tender to the touch all over the trunk. The flashes continued. July 10 he felt about the same. July 11 the tenderness continued, and he also had a sense of prickling in his chest and abdomen; he was more nervous on this day than previously; that night he sweated freely. On July 12 he began to feel pains in his abdomen, irrespective of the areas of induration, and also over the kidneys. The next morning, Monday, July 13, he felt very badly and took no treatment that day. In the evening his pain seemed concentrated in the bladder region. He passed urine twice that evening, and once at 2 a. m. on Tuesday. All day Tuesday he felt a sense of weakness in the abdominal muscles in trying to pass urine, which he was compelled to do frequently. Toward evening he had great trouble in getting the flow started; used a hot com-

press externally and turpentine internally. He also had a sensation of weakness in the abdominal muscles in trying to have a bowel movement. On account of the pain, he slept very little either Monday or Tuesday night. Tuesday morning there was some numbness to touch over the abdomen, and on Wednesday the numbness had extended half way down the thighs. Wednesday evening he noticed that there was a diminution of the sensibility for touch and pain to a point below the knees. He felt no loss of power in the legs or arms; no double vision. Hearing was normal. He had considerable perspiration. On the 10th and 11th he had severe pains in the occipital region. His temperature is said to have been slightly above normal on the 14th. He was seen July 16.

Examination.—The patient was a fairly well-developed and well-nourished man; height, 5 feet 11 inches; weight, 168 pounds; temperature, 97.2-5; pulse, 93. His head and face were well formed. His eyes were bluish gray and vision was good. Ears were normal in appearance and his hearing was good. There were well-marked lesions of psoriasis at various points over the body. The examination of the heart and lungs was entirely negative except for a blowing mitral systolic sound. Both radial arteries were considerably thickened. The temporals were normal. The tongue was moist, but considerably coated. The patient was extremely nervous, and trembled and perspired excessively throughout the course of the examination. He complained of some pain still in the occipital region and of slight bladder pain; said that he had a "goose-pimple" feeling over both sides, occurring alternately in the chest, abdomen and legs, and that his abdomen felt as if it were full and had a lump of dough in it. He stated that he was dizzy during the last days of treatment, but had not been so since. The expression of his eyes, and the movement of the lids and eyeballs were normal. There was no arcus senilis, ptosis, lagophthalmos, nystagmus, strabismus or double vision. The pupils were equal and reacted equally, readily, and together for light and distance. Taste and smell were normal. Sensibility for touch, pain, pressure, heat and cold was much dulled from the seventh rib to the pubes. At other points it appeared normal. There was a well-marked *tache cerebrale*. The patellar and Achilles reflexes and the deep reflexes of the arm were much increased. Ankle clonus was very slight, if present at all. Gait and station were normal. Abdominal reflexes were very faint; cremasteric considerably impaired; facial reflexes increased; muscular power in the hands, feet, arms and legs normal. There was considerable loss of power in the abdominal muscles; no fibrillary twitching; marked tremor in practically every part of the body when brought into use. Tongue was protruded straight, but very tremulous. There were no contractions and no convulsions. Goose-pimples appeared promptly everywhere on the patient's skin when he was touched in any way. There was no special irritability in muscles or nerves; no speech disturbances. There was no sensory disturbance in the thighs or legs at the time of the examination, though the patient had noticed these things subjectively, and said that he had demonstrated them objectively. He had fair control of his bladder and bowels.

Course of Disease.—July 17: The patient was evidently much less worried this day than the day before.

Tremor was much less marked. The deep reflexes were only moderately increased and there was no ankle clonus. Both the abdominal and cremasteric reflexes were more pronounced. The sensory disturbances were about the same. Temperature was 98.3-10; pulse, 87.

July 25, 1908: In three days after the last note the patient was able to pass water normally. The goose-pimples and the "flashes" also disappeared at about the same time. The patient was not nervous now, or at least not more than was usual with him. He slept well. Wounds were all healed. His deep and superficial reflexes were all absolutely normal, but the left pupil was about one-quarter larger than the right. There was still slight sensory disturbance over the abdomen and lower chest; no other abnormality found in a careful examination. The patient said that he felt perfectly well.

About one month after the above date this man was seen on the street. His pupils were then equal and he said that he was perfectly well in every way.

When Patient 1 presented himself I was at a loss to interpret the condition and was inclined to consider it something altogether independent of the rabies or of the serum treatment. Shortly afterward, however, Eduard Müller's article¹ describing an identical case and other literature on the subject was unearthed. Up to the present, however, there has been no record of any case from the United States, though there are over twenty Pasteur institutes in this country.

As early as 1891 cases similar to the above were reported from French sources, and in 1905 Remlinger,² the head of the Constantinople Institute for Rabies, was able, by searching the literature and by questioning different institutes, to gather reports of forty cases in which well-marked symptoms, similar to the above, were observed. Müller has found references to sixteen more in addition to his own case, and these, with Pampoukis'³ three and the two here recorded, make a total of sixty-two cases.

Letters were sent to thirteen Pasteur institutes in the United States asking for information concerning similar cases, but, though nine responded, none reported any cases. Seven contented themselves with merely reporting the absence of cases; two, however, insisted that when such conditions were present, they were the result of the use of improperly prepared serum, and not a necessary result of the treatment. The director of one institute had seen no cases such as described, but had had a number of patients who complained of "nervous conditions."

That a condition similar to that mentioned

1. Müller, E.: *Deutsch. Ztschr. f. Nervenhe.*, April, 1908, xliii, Nos. 3 and 4.

2. Remlinger: *Ann. de l'Inst. Pasteur*, 1905, p. 625.

3. Pampoukis: *Deutsch. med. Wehnschr.*, Nov. 28, 1908, p. 2076.

does occur in connection with the Pasteur treatment of rabies, as ordinarily administered, however, can scarcely be doubted. Several foreign authors speak of it as a well-established condition to be expected in a certain proportion of cases, and there is no reason why it should not appear in this country as well as abroad. The appearance of certain definite symptoms, coming on at a certain period in treatment, running an almost uniform course, and ending in almost every case in recovery in spite of the apparent seriousness of the condition, and the failure to identify these symptoms with any other known form of nervous trouble, makes it almost certain that we are dealing with a definite pathologic condition associated, in some way, with antirabic treatment. It has been urged that the symptoms are merely the manifestations of a modified form of rabies, but the lack of similarity between the symptoms of rabies and those under discussion, and the great suffering and high mortality in rabies, render this very unlikely; and, besides, the condition has been found in those who, having taken the antirabic protective inoculation, have been proved later never to have been infected with rabies. Moreover, the condition has been found repeatedly in individuals when there was no evidence of general infection following the inoculation, and when there was no reason to suspect the presence of syphilis. The exact nature of the pathogenesis of the condition up to the present is undetermined. A fatal result is rare, only two deaths occurring in the sixty-two cases given. But one autopsy has been performed, as far as can be learned, and, even in this instance, the results were rendered uncertain by the presence of a secondary infection of a different type.

About the only thing certain in the etiology of the condition is that it follows the use of the antirabic serum and occurs independently of rabic or ordinary septic infection. That the injected material contains a bound *Wuttoxine* which is the cause of the condition, is rather widely believed, but this can not be absolutely proved.

The symptoms, as they present themselves, especially in the severe cases, are not unlike those of Landry's paralysis, or severe multiple neuritis, and it is worthy of note that the initial symptoms appear in that region of the body where the inoculation is given, and later spread to other parts, indicating that, as is true with the rabic infection, the poisonous material follows along the nerve trunks until it reaches the spinal cord, where a myelitis is probably set up. In the very

favorable prognosis, however, the cases are very dissimilar to Landry's paralysis.

Why the condition occurs relatively frequently at some institutes, and rarely or not at all at others, is without satisfactory explanation. Puscarin and Lebell⁴ report seven cases. Gonzales⁴ says that the cases occur frequently, while some institutes, especially those of this country, report none at all. At the Pasteur Institute of the Minnesota State Board of Health there have been 360 patients treated up to date. Out of this number, in addition to the two cases here reported, three others, according to reports sent to the director of the institute, showed symptoms very similar, though in milder form. Among the nine institutes that responded to inquiries four reported a total of 7,080 patients treated, with no cases of the sort here described.

Though desiring to make full acknowledgment to the courteous responses received to my inquiries, I can not but believe that one factor, at least, in the scarcity of cases in some institutes is due to a failure to carefully follow up and study the patients subsequent to their treatment.

NOTE.—Since this article was prepared, I have learned that a patient with symptoms very much like those reported above was some time ago under the care of Dr. W. S. Thayer, of Baltimore, who very kindly sent me the following notes of the case, dictated from memory:

CASE 3.—The patient had just left the institute and was returning from dinner when she felt nauseated. The next day had a little fever and within, I think, forty-eight hours of the first symptom, became completely paraplegic below a point in the upper dorsal region. There was almost absolute loss of sensation, increased reflexes with dorsal flexion of the toes on plantar stimulation and ankle clonus; incontinence of

4. Quoted from Eduard Müller: *Deutsch. Ztschr. f. Nervenh.* April, 1908, xliii, Nos. 3 and 4.
urine and feces. The outlook seemed to me as bad as could be. In a week or ten days the patient began gradually to improve and eventually recovered completely. . . . The patient, who was a woman of about 40 years of age, has remained perfectly well, and I have heard from her within three or four months.

Dr. Thayer also informs me that a number of similar cases have occurred in the Pasteur Institute at which the above patient received treatment.

In the April, 1909, number of the *Archives of Diagnosis*, ii, No. 2, I have found a second case reported by Dr. J. R. Fabricius, which is evidently of the same sort as those described. I give herewith a brief summary:

CASE 4.—The patient, 62 years old, had had good general health. On May 31, 1898, he was bitten by a five-months-old bull terrier. The animal, which had been sick for half a day, was eventually seized with convulsions, and directly after biting the patient it was shot. The patient's wound was cauterized with pure phenol and treatment was later begun at the health department. After the second injection the patient

complained of pain in the abdomen at the site of the injection of general weakness, and of restlessness at night. Eleven days after the first injection, and sixteen days after the bite, the patient complained, among other things, of numbness of the fingers and pain and weakness in the legs, along with considerable incoordination on walking. Later there was marked prostration with a flaccid paralysis of the upper and lower extremities. Reflexes were practically abolished. There was no disturbance of the sphincters. The paralysis extended rapidly, and death took place twelve days after the first injection of the serum. An autopsy was performed by Dr. Van Giesen, but unfortunately the body had been embalmed, and the examination was more or less unsatisfactory. So far as anything positive could be stated, the result of the examination was wholly negative, and it was specially stated that Negri

bodies could not be found. Emulsions of such portions of the brain as had escaped injection were injected into guinea-pigs, which remained healthy for four months. An examination of the brain of the dog failed to show Negri bodies, and emulsions made from the brain tissues of the animal also failed to produce any symptoms when injected into guinea-pigs. This case, therefore, among others, seems to point conclusively to the fact that the condition here reported is at least independent of rabic infection produced by bite, and that the pathologic condition is due to something introduced at the time the injections are given. The two together constitute conclusive evidence that the condition described in this paper is not confined to the patients from one Pasteur institute in the United States.

ARTERIOSCLEROSIS IN THE NERVOUS SYSTEM, WITH SPECIAL REFERENCE TO APOPLEXY*

BY ARTHUR S. HAMILTON, M. D.

MINNEAPOLIS

A disturbance of the circulation in the nervous system probably produces a greater effect than in any other organ or organs in the body. High or low blood-pressure, anemia and hyperemia, hemorrhage, thrombosis, or embolism—all produce symptoms more or less serious and permanent in character, and an increasing number of nervous manifestations is ascribed to circulatory disorders. Indeed, this tendency has been so great of late that the mere presence of arteriosclerosis is often at once accepted as the explanation of manifestations which otherwise appear to have no clear cause. The fact, recently made prominent, that arteriosclerosis may be present in one area of the body and not in another has even been made use of to explain almost any obscure case, it being assumed that there might be cerebral or spinal arteriosclerosis, even if there were no evidence of the condition in palpable arteries. While accepting, therefore, disorders in the circulation as the cause of a considerable variety of nervous troubles it is only right to utter a word of warning against explaining any and all nervous manifestations by arteriosclerosis, and especially against manufacturing arteriosclerosis to explain conditions which otherwise seem unexplainable.

Headache, vertigo, apoplectiform attacks, loss of memory, insomnia, irritability, neurasthenic

manifestations, etc., have all been accepted as frequently caused by arteriosclerosis, but in a valuable contribution, made at the meeting of the American Medical Association three years ago, Walton and Paul, after a careful study of one hundred individuals with well-marked arteriosclerosis of the palpable arteries, demonstrated that though vertigo, apoplectiform attacks, loss of memory, and other evidences of failing mental power are often accompanied and doubtless produced by arteriosclerosis, yet headache, insomnia, and neurasthenic symptoms require some other explanation. The sum of conditions going to make up senile dementia is generally accepted as being largely dependent on vascular conditions, and this is particularly true of one form of this mental weakness of advanced age, often set aside as a separate form and then known as organic dementia.

It is not through the brain alone, however, that these evil effects of arterial disease in the nervous system are manifested. Especially of late, attention has been directed to a symptom complex, coming on in those well along in years, shown in a gradual decrease in muscular power and energy; a stiff, slow, and dragging gait; and, finally, so great a loss of power, especially in the legs, that the individual is no longer able to get about; and evidently having its origin in the spinal cord. This condition also has been ascribed to vascular disease, and it has even been

*Read before the Sioux Valley Medical Association at Sioux Falls, S. D., June 28-29, 1910.

described by several authors as spinal arteriosclerosis. Post-mortem study has shown that these symptoms are due to a degeneration of certain tracts and possibly of certain cells in the cord. Whether that degeneration, in turn, is dependent on arteriosclerosis is not so well worked out.

In addition to these symptoms, apparently having their origin in the brain and cord, we have a vague knowledge of certain conditions, as erythromelalgia and intermittent claudication, which possibly depend on arteriosclerotic involvement of the peripheral nerves.

With these preliminary remarks, in which I have endeavored to point out that arteriosclerosis is a fairly well proven cause of a considerable number of conditions arising in the nervous system, and the possible cause of a still larger number, I desire to take up in a very general way the subject of apoplexy, in which one sees the most serious and one of the most common, undoubted manifestations of cerebral arteriosclerosis.

The term *apoplexy* was originally used in medicine to describe a loss of consciousness, more or less complete, with a loss of sensation and motion. From very early times the seat of the trouble was recognized as being in the brain, and as the early pathologists were much more impressed by the hemorrhages found than by any evidence of thrombosis or embolism, which indeed were not recognized until many years later, in the course of time apoplexy and cerebral hemorrhage came to have much the same meaning. Unfortunately, even to the present time this error has not been wholly eradicated, even among medical men, and the diagnosis of hemorrhage as a cause of apoplexy is still made in a much larger proportion of cases than the facts justify.

A few years ago it would have been proper to describe apoplexy as due to one of three conditions: thrombosis, hemorrhage, or embolism. Now it is necessary to add a fourth, for it has recently been prominently brought forward that certain apoplectic attacks, particularly those that occur again and again in the same individual, with a practically complete recovery from each attack, are due, not to any of the above causes, but to a spasm of a localized group of cerebral vessels, much as is seen in Raynaud's disease.

In just what proportion these four conditions are the cause of the apoplexy, there is no positive means of stating, but it is evident that from

the standpoint of treatment it is very important to make a differential diagnosis. In some institutions the post-mortem records show thrombosis more common than hemorrhage, and in others hemorrhage is more common than thrombosis, but it is certain that the comparative ease with which hemorrhage, as compared with softening, is diagnosed post-mortem, would make any error in observation incline strongly to the side of hemorrhage. Clinically, the probable diagnosis of cerebral softening is made much more frequently by those familiar with the condition than is hemorrhage. With the aid of the various diagnostic methods applicable, some having a profound significance and some having very little value, it was possible for Friedreich to make an accurate diagnosis three times out of four in one hundred and ninety-seven cases that came to autopsy.

Of these diagnostic methods I wish to speak briefly, and a word by way of preface as to the pathology of apoplexy is essential. Aside from the cases where it is due to traumatism, and of which I shall not speak here, cerebral hemorrhage is most often due to the rupture of miliary aneurisms. In certain arteries of the brain, especially those which come off near the beginning of the middle cerebral and go to the large ganglia at the base of the brain and to the internal capsule, there is practically no anastomosis. There is no means, therefore, of relieving the high pressure to which these so-called end-arteries are subjected, and they become the frequent seat of numerous miliary aneurisms.

Thrombosis, on the contrary, is due to a state of low pressure in the cerebral vessels, dependent partly on a narrowing of the lumen and partly on a weak heart-action. The weak heart-action naturally is the usual concomitant of advanced age, but the narrowing of the lumen of the vessels occurs at two distinct periods of life, namely, in the high-grade arteriosclerosis of advanced age and in the arteriosclerosis due to syphilis, which usually manifests itself at from thirty to forty-five.

Embolism has very little to do with arteriosclerosis as we ordinarily understand that term. Its most frequent cause is the breaking off of a small vegetation from a diseased heart-valve, but it may occur from a broken up thrombus such as is seen in the sinuses of the post-partum uterus, whether septic or not; in the thrombosis which occurs around any focus of infection; and in the thrombi which may form in the heart in

the course of a prolonged and exhausting illness, such as typhoid fever or pneumonia.

Of the pathology of the localized spasm of blood-vessels, very little is known, for few such cases come to autopsy, and even when examined probably little, if anything, would be found. Indeed, the existence of such a condition depends largely on the fact that it is known to occur elsewhere, and in the necessity of invoking some such condition to explain the complete recovery which occurs in many cases.

Remembering now the pathology of cerebral hemorrhage, the symptomatology of a typical case is readily understood. The miliary aneurisms at the base are very small—scarcely as large as a pinhead and quite incapable of producing symptoms, so that prodromal symptoms in hemorrhage are relatively uncommon, and, if present, depend, not on the aneurisms, but on the associated more or less high-grade arteriosclerosis. The normal pressure in the brain is about that of the veins; consequently when an artery ruptures the blood pours out with considerable violence, raises the intracranial pressure decidedly, and almost certainly produces sudden and complete unconsciousness. An ophthalmoscopic examination will often reveal a choked disc, retinal hemorrhage, or engorged vessels, the presence of which are of great diagnostic value. The heart-action is necessarily at least fairly strong, the pulse is usually full and bounding, and the blood-pressure is high. There is no endocarditis. The resulting paralysis is ordinarily a complete hemiplegia, which frequently is rapidly fatal. There is often a low temperature at first, and this is of value, if no other cause be discovered than the hemorrhage for the low temperature. A hypertrophied heart without valvular defect and evidences of nephritis would have about the same value in indicating hemorrhage. If the blood has ruptured into the meninges or the ventricles, the cerebrospinal fluid will contain blood.

In thrombosis we expect to find a high degree of arteriosclerosis, and the palpable arteries are usually, but not necessarily, hard and tortuous. In this connection the retinal vessels are much more valuable for examination than are the temporal or radial arteries. Owing to the generally disturbed state of the cerebral circulation premonitory symptoms, such as headache, vertigo, impaired memory and intelligence, loss of orientation, and mild attacks of stupefaction lasting for days or years, may be present, and

there is not infrequently a history of previous attacks which, if present, practically never mean hemorrhage. As there is no necessary marked increase in intracranial pressure, in thrombosis, coma is not nearly so marked as in hemorrhage, and the individual may awake in the morning, perfectly conscious, to find himself paralyzed or in the course of the day he may, with a clear mind, observe the orderly involvement of one part after another of his body in the paralysis. This peculiar step-like progress in the symptoms is especially suggestive of thrombosis, provided the possibility of a traumatic meningeal hemorrhage does not enter into the case. The pulse is usually weak and irregular, especially if the thrombosis be due to age and not to syphilis. As already mentioned, the typical ages are from thirty to forty-five if syphilis is the cause, and after sixty if the trouble be due to age. Twitching and convulsions are much more common in thrombosis than in hemorrhage, but less common in thrombosis than in embolism. Complete hemiplegia may occur in thrombosis, as well as in hemorrhage, but localized paralyses such as monoplegia, aphasia, hemianopia, etc., are usually due to thrombosis. The papillæ are pale and the retinal vessels undistended. The cerebrospinal fluid is clear.

Embolism is a rare affection as compared with the other two conditions. It occurs often in the young, has no prodromes, and comes on very suddenly and usually with coma. Though the embolus may come from any part of the body, it usually arises at some point between the pulmonary veins and the point of lodgment, and consequently usually from the heart, for emboli arising beyond the lungs are usually strained out in that organ. For some reason vegetations seem more likely to be broken off in an acute attack engrafted on an old valvular defect than in the primary attack of endocarditis.

In every case of apoplexy the prognosis must be looked upon as serious, though not so much on account of the immediate attack, from which a large majority recover, as on account of the underlying pathologic conditions in the vessels, which remain and may be the cause of another attack at any time. The only exceptions to the rule are embolism occurring in the young, embolism in parturient women, and, to a lesser degree, thrombosis in specific cases properly treated. The seriousness of the prognosis in individual cases of apoplexy is determined partly by the cause and partly by the presence of

certain symptoms. The outlook is better in thrombosis than in hemorrhage, but less good than in embolism. The symptoms that are usually considered as having the greatest weight in prognosis, are the character of the coma and the changes in blood-pressure, in circulation, and in respiration. Sudden onset of deep coma, and especially its prolongation, is a bad sign. Deep coma that lasts twenty-four to forty-eight hours with no change, constitutes a very grave sign, especially if the case be one of hemorrhage. Rapid rise of temperature and of blood-pressure is an unfavorable sign, but rapid fall of either to a point much below normal is a much worse sign. A marked disturbance of the respiration, such as is seen in the Cheyne-Stokes type, is ordinarily regarded as a very unfavorable symptom, and is often so, yet individuals may live for months with frequent appearance and disappearance of the symptom. In hemorrhage, if there is not considerable return of power in the first month, it is not probable that there ever will be much improvement, and in thrombosis the prognosis becomes equally bad if the paralysis does not recede in two or three weeks. Such collateral circulation as may be established is set up in a few days, and the so-called indirect focal symptoms should disappear in hemorrhage in one month, and in thrombosis in two or three weeks. Evidence of developing contracture is a positive sign that there never can be complete recovery.

The treatment of apoplexy divides itself naturally into three heads: (a) the prophylaxis, (b) the treatment of the immediate attack, and (c) the treatment of the residual conditions, such as paralysis. In this article attention will be given only to the treatment of the immediate attack. A safe rule in this condition, until a reasonably accurate diagnosis as to the cause of the apoplexy is reached, is to do very little beyond keeping the patient at rest, which should be done in every case, with the head slightly raised, the neck freed from pressure, and all sources of irritation, such as noises and visitors, excluded. In cases of hemorrhage with strong heart-action and a full bounding pulse, the question of bleeding always comes up, and in such a case it is probably a justifiable measure. It must be borne in mind, however, that high blood-pressure does not necessarily indicate bleeding. The coma, for instance, is much more often due to the relative anemia of the

cortex, produced by the pressure of the extravasated blood, than to the immediate presence of the free blood. A rise in the blood-pressure, therefore, is not necessarily the cause of the hemorrhage, but may be due to the attempt of the organism to force more blood into the brain to supply an anemic cortex. In such a case bleeding would certainly be contra-indicated. Bleeding is, of course, out of the question in thrombosis, and, on the contrary, heart-stimulants, such as camphor and ether, should be employed. In apoplexy due to hemorrhage surgical interference at the seat of hemorrhage has been advocated, but so far with not very encouraging results. Cold applications about the head are probably a benefit in hemorrhage, but would not be indicated in thrombosis. Free purgation is usually recommended in hemorrhage, but is certainly out of place in thrombosis, where the removal of any considerable quantity of fluid from the body is highly disadvantageous and also in embolism, where anything that in any way disturbs the patient should be avoided in order not to loosen more particles to become emboli. In specific cases mercury should be used promptly, and later potassium iodide when the patient is able to swallow. No attempt at feeding should be made at first, though the administration of saline solution by bowel is advantageous, especially in thrombosis, but if the unconsciousness continues something must be done to keep up the patient's nutrition. Nutritive enemata or feeding by the mouth may then be employed, but with the latter great care must be exercised in order not to set up an aspiration pneumonia. When there are deep coma and much difficulty in breathing, considerable relief is often obtained by turning the patient on his side and permitting the tongue to fall forward. For nervous manifestations bromides, in doses of 20 to 30 grains, are perhaps the safest, but if such symptoms continue, stronger drugs, as veronal, sulfonal, or chloral, may be employed. The depressing effect of morphine on the respiration almost completely inhibits the use of that drug in apoplexy.

GLYCERINE DRESSINGS

Glycerine dressings covered by rubber tissue, are frequently more useful than the ordinary wet dressings in reducing inflammatory swelling and in relieving pain.—American Journal of Surgery.

WHAT IS A PREDISPOSITION TO INGUINAL HERNIA?

By JAMES E. MOORE, M. D.

MINNEAPOLIS

It has always been noted that certain families are specially disposed to develop hernia, and it has been spoken of as a family trait. What is there in the anatomical structure of these families that predisposes to hernia? Direct inguinal hernia, so far as we know, is due to an inherent weakness in the abdominal wall at this point, but oblique inguinal hernia, coming, as it does through a long oblique canal, cannot rationally be accounted for in this way.

Below the semilunar fold of Douglass the aponeurosis of the transversalis passes in front of the rectus muscle so that the inferior portion of the rectus lies directly upon the transversalis fascia and peritoneum. There is also a space at the outer side of the rectus which has no muscular covering. These two conditions make this the weakest part of the abdominal wall, and it is easy to understand why a direct hernia may occur from extra pressure from within. These direct hernias come on at a late date, and occur more frequently in persons whose occupation requires lifting and straining. This can all be explained by the weakness at this part of the wall.

Oblique inguinal hernia occurs in childhood or early adult life. This fact alone suggests that it may be the result of a congenital condition. Koch originally suggested that all herniæ are due to congenital defects. My personal belief is that Koch's theory is correct in reference to oblique inguinal hernia. During the past few years in my clinic I have demonstrated many times the evidence of a congenital sac in cases of acquired inguinal hernia, and many writers have called attention to the frequency of this congenital defect. Since I have been looking for this congenital sac I have usually found it in young subjects. When the hernia is old the evidence may be destroyed, but it is only fair to conclude that since evidence of a congenital sac is so readily found in a recent hernia it could have been found in all of them at the beginning.

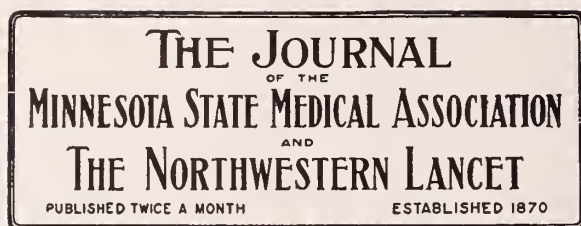
The migration of the testicle from the abdomen to the scrotum occurs during the last two months of fetal life, and the peritoneal-lined canal (the processus vaginalis) through which it passes is a continuous open canal from the peritoneal cavity to the bottom of the scrotum. In the natural course of development this canal

begins to close up as soon as the testicle has descended, and the closure is usually complete about twenty days after birth, but, unfortunately, the process of development is often incomplete, and this vaginal process is not properly obliterated, leaving this congenital defect, which predisposes to hernia. Is not this lack of development the family trait which leads to hernia? Is not this congenital defect, the patulous processus vaginalis, the predisposing cause to inguinal hernia? I believe that it is, because I have been so successful in demonstrating its presence ever since I began to study this matter.

What led me to make this brief contribution was a recent clinical experience in which I operated on the same day upon three brothers, aged seven, nine, and eleven years. They all had what would be classed as acquired inguinal hernia because they came on some time after birth. In the seven-year-old boy the vaginal process was open throughout showing a slight constriction opposite the external ring. In the nine-year-old boy the tunica vaginalis was seemingly separated from the hernial sac, but a careful dissection demonstrated a communication between the two through which a probe could be passed. Even in the presence of the hernia it is evident that the tunica would eventually have become completely separated. In the eleven-year-old boy the tunica vaginalis was completely separated from the hernial sac by a very thin wall evidently of comparatively recent development. The hernial sac in all these cases was very thin, long, and slender, like a glove-finger, and altogether different from the appearance of an old inguinal hernia, but it seems rational to conclude that they would all have acquired the usual characteristics of an oblique inguinal hernia had they been allowed to remain.

HELP TO DIAGNOSIS

When seeking the cause of an obscure or indefinite abdominal pain, and especially of a pain in the loin, make a careful microscopic examination of the centrifugalized urine. Renal calculi sometimes cause only mild, irregular pains, and the finding of a few red-blood cells in the urine may be the first clue to their presence.—*American Journal of Surgery.*



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THE SPIRIT OF RESEARCH IN MEDICINE

In the recent death of Robert Koch the medical profession has lost an example of the highest type of scientific investigator and a brilliant exponent of the spirit of research in medicine. Though in his later years a generous and appreciative public provided him with all the modern facilities for careful original investigation, his first work was done with limited appliances and under circumstances such as would have wholly discouraged men less enthusiastic than himself. Indeed, a careful consideration of the truly great steps thus far in the advancement of medicine, shows that it is not the equipment or the material on which one works that has determined the result, but the spirit of the worker.

At the present time the tendency in original work is all toward the laboratory, and much that is best in recent contributions would have been impossible save for the splendidly endowed and equipped laboratories that have recently sprung up all over the country. But a fact is a fact, whether observed at the bedside or in the laboratory, and every physician in practice has

constant opportunities to prosecute those clinical studies which made medicine a science, as well as an art, before laboratories, in the modern meaning of the term, were known. In the words of Dr. Welch, used at the opening of the new Jefferson hospital: "A good clinical observation has precisely the same value as a fact determined in the laboratory, and, even if more difficult of interpretation, is often the safer guide for the action of the physician." Dr. Hughlings Jackson, than whom Great Britain has produced no greater medical man in years, was foremost and always a clinician, but he was a wonderfully careful observer, and in his bedside observations did original research work as brilliant as that of any laboratory worker of his time. He was more, however, than a mere observer of new facts: he had that unusual faculty of correlating the raw material gathered by other men, whether from the laboratory or the bedside, and of drawing from it new ideas which enriched and expanded medical science.

The best work everywhere is now done where there is a proper correlation of laboratory and clinical work, but there is a growing tendency for clinical men to stand aside and allow the laboratory man to appropriate the title of scientist. There is a better explanation for this situation, however, than the mere indifference on the part of the clinician to that which is his birthright as much as that of any other worker. It lies, to a considerable degree, in the fact that many men work for years in laboratories satisfied with a very moderate pecuniary reward, if only their circumstances are such as to enable them eventually to take honorable rank with the leaders in their own lines of investigation. Among clinicians this attitude is all too rare. Judged by a superficial standard of the moment, it is assumed that it is the amount, rather than the quality, of the work that determines the recompense. Though most practicing physicians will stop at no expense of home joys, of comfort, of sleep, or of recreation in rendering service to a poor patient, it is the decided exception among them to find one who will exercise that close observation and devote that time to a clinical case which is essential, if new and worthy ideas are to be derived from it. The true scientist is he who, with enthusiasm, patient industry and constant application, with a mind always open to the truth and with a wise caution which permits him to advance no ideas that cannot be substantiated by facts, works on at his problem without hope or expectation of other

reward than the knowledge that he may enrich the science in which he labors,—an opportunity which is as open for the practicing physician as to the laboratory worker, who, at the present time, has largely possessed the field.

POLIOMYELITIS IN MINNESOTA FOR 1910

The prediction, based on experience elsewhere, that poliomyelitis would be prevalent in Minnesota in 1910, especially should the year be dry, appears to receive abundant confirmation.

The confirmation does not come, unfortunately, from the reports of cases by physicians, but from the death reports. From January 1st to June 30th, the State Board of Health has had 36 deaths reported, which means 180 cases, if the rate of last year holds for this year. The corresponding period of 1909 showed 6 deaths, which, on the same fatality-rate, indicates 30 cases, agreeing closely with the number (36) estimated from other sources.

Hence the number of deaths in the first half of 1910 equalled, or exceeded, the number of cases in the corresponding period of last year. In other words, poliomyelitis in Minnesota was five or six times as prevalent in the first six months of 1910 as in the first six months of 1909. In the second six months of 1909 there were 232 deaths, almost thirty-nine times as many as in the first six months. Should this ratio be continued this year the appalling development will be that we shall have 1,000 deaths from this disease by the end of this year.

It was hoped that the study of this disease would greatly advance in this state during this year, and that physicians would have become familiar with the fact that *poliomyelitis is reportable*, and that they would report it. So far, those who have reported cases have had sent to them a schedule to be filled out with details for the use of the State Board of Health. A report on the work done last year will shortly appear. The Massachusetts State Board of Health has a special appropriation of five thousand dollars and will employ two men exclusively to study it. The Federal government and the Rockefeller Institute are now both engaged in field investigation.

In Minnesota neither men nor money seem available for concentration on poliomyelitis alone, but the results so far obtained make it worth while that Minnesota should not be lacking in its contributions to the study of the disease,

certainly not so shamefully lacking that even the number of cases in the state is a matter of conjecture or of calculation from the deaths, instead of a clean-cut record of the cases reported.

This state, with its enormous size, its great variabilities in conditions, and its cosmopolitan population, affords a remarkable opportunity for careful comparative work, the elimination of non-essentials in the search for the source of infection, and the identification of the common factor which must be at work. But nothing can be done unless the physician, who alone knows the cases and where they are, supplies the information to a common center, from which study can be made.

Physicians are legally bound to report poliomyelitis, and we implore them to do so, in order that it may not be left as a blot upon the condition of medical knowledge and advancement in our state, and that we may not justly hear the sneer: "In Minnesota they don't even know how many cases they have!" Report cases, then, as soon as the diagnosis is made. If you are sure you have a case of poliomyelitis, but no paralysis, report it as an abortive case.

A NEW EPIDEMIC

There seems to be in the Northwest this summer an epidemic of charges against city physicians and hospitals, and so far as we can ascertain there appears to be no ground whatever for any of these very many derogatory rumors and statements about institutions and men, that should, it seems to us, be free from calumny. If any hospital in Minnesota, or in any other state, is not conducted with, not only proper, but the strictest, regard for honesty in the administration of its financial affairs and for humanity in its internal conduct, this paper will be the last to put any obstacle in the way of the exposure of anyone, of high or low degree, guilty of official or professional misconduct of even the slightest character.

But let us look at some recent charges made against well-known hospitals and well-known physicians conducting them.

In St. Paul Dr. A. B. Ancker has been under fire for a long time, and the bitterest political enmities have been engendered by the charges made against him; and yet not a single unworthy authenticated act on the part of himself or any subordinate in the hospital has been discovered.

In Stillwater Dr. T. C. Clark, an honored city physician for many years, was charged, and

charged in writing, with grave misconduct in his dealings with a poor child; and yet the county commissioners declared, by a unanimous vote after a careful investigation, that Dr. Clark's conduct of the office was deserving of the highest commendation, and was particularly so in this case.

The other day three specific charges in the management of a case in the Minneapolis City Hospital were brought against Dr. Collins, the new superintendent, whose course thus far has met with the unanimous commendation of the medical profession of Minneapolis. As this case is somewhat typical of many cases out of which charges, often made by reputable citizens, grow, we deem it of special interest.

A woman was hurt by an automobile upon the streets of the city, and was taken to the City Hospital. The next day she was taken to her home, and a relative, who was no doubt a well-meaning man, made these specific charges against Dr. Collins and the hospital: "The woman was in the hospital from 5 P. M. until 10:30 P. M. before her friends were notified; she was given no medicine; and the broken bone (the collar-bone) was not set." To these seemingly grave charges, Dr. Collins replied: "They are all true. The woman was unconscious until 10:30 and we did not know her name or residence until that hour; medical men give no medicine for broken bones; and the time had not come for interference with the fractured clavicle in this case." The woman's family physician, one of our best surgeons, approved the course pursued at the Hospital; and yet the charges were spread broadcast, and the truth will never overtake them and remove the feeling that this case has left in the minds of some people against the City Hospital.

We can name a half dozen or more hospitals and city physicians in the Northwest where similar and equally groundless charges have been made within a few weeks, and we do not know of one case in which the charges are based upon evidence worthy the credence of any man, much less of any court.

Until public sentiment properly rebukes the maker of unjust charges, so long will such charges be made regardless of the character of the men the public puts in office and in positions of trust.

OUR HUMILIATION!

In our issue of July 1st we rejoiced, perhaps boasted somewhat, that Minnesota has done, and is doing, a great work in elevation of the standard of medical education and the educational requirements of medical men who practice in the state. Our medical school and our board of medical examiners were given high praise in the Carnegie Foundation report, and we rejoiced over the fact.

We publish, on another page, just cause for our humiliation, in the form of a two-column advertisement (reduced in our pages) that appeared in one, and perhaps in many, of our local papers.

"The Red Cross Physicians!" Would anybody but a charlatan or one wholly devoid of any sense of shame adopt such a name for mercenary purposes?

"The dividing line between human skill and miracle!"

"No more operations for appendicitis, gall stones, goiter, tumors or cancer!" Is ignorance or mendacity the father of such a statement?

The intellectual caliber of these men is revealed in one of their sentences, in which it is said that "diseases of the stomach, intestines * * * should not fail to call," i. e., call upon these "Red Cross Physicians and Surgeons."

It is a great pity that the state of Minnesota contains a sufficient number of people so ignorant as to support such unconscionable quacks as "Drs. Rea Bros. & Co."; and the still greater pity is that one Minnesota legislature after another so ties the hands of our State Board of Medical Examiners that it cannot reach "miraculous" healers.

AN IMPORTANT CORRECTION

In Dr. White's paper on cerebrospinal meningitis, in our last issue, it was stated that the Flexner serum "is not yet on the market." This was true when the paper was written and read, but the serum is now on the market, and this fact was announced by the Mulford Company in their advertisement in our May issue.

BOOK NOTICES

THE PRACTICAL MEDICINE SERIES. VOL. III.
The Eye, Ear, Nose and Throat. 1910.
Edited by Casey A. Wood, M. D.; Albert H. Andrews, M. D.; Gustavus P. Head, M. D.
The Year Book Publishers, Chicago.

This annual little volume, which is always welcomed by the medical profession, is a digest of the year's progress in ophthalmology and otolaryngology. A review is given of the important monographs and articles that have appeared during the year, together with a reference to the original publication.

The year 1909 has shown a very great advance in our knowledge in all departments of medicine and surgery and this is particularly true of that department to which the above volume is devoted.

Among the most striking advances noted during the past year are extraction of cataract in the capsule; eye-symptoms of pellagra; the use of various tinted glasses to protect the eye from violet and other short-waved light rays; the prophylaxis of ophthalmia neonatorum and tuberculosis; decompression operation for relief of choked disc; seropathy; diagnosis and treatment of labyrinthine involvement; surgery of the accessory sinuses; etc.

WEBSTER'S NEW INTERNATIONAL DICTIONARY.

Editor-in-Chief, Dr. W. T. Harris, late U. S. Commissioner of Education. Over 400,000 defined words and phrases; 6,000 illustrations; 2,700 pages. G. & C. Merriam Co., Springfield, Mass.

The decennial revision of Webster's dictionary, like the decennial census of the United States, has both a direct and an indirect value which cannot be stated, if indeed it can be comprehended.

Had not Webster's Dictionary, in each of its preceding forms, been a work of unique value, the large encyclopedic dictionaries issued within the past few years, would have supplanted it, especially in schools and colleges and in the courts, where exact definitions are sought. But this great dictionary has not been supplanted, and perhaps never will be, as the standard of scholarship, not only in America, but in many foreign English-speaking countries.

The new edition is completely revised, and every line of it put in new type.

For the lucidity of its definitions, the comprehensiveness of its matter, and the convenience of its arrangement, the present revision is a marked improvement on the International of 1900.

The new edition should be in every household in the land, and in practically every office where the standard spelling and meaning of words are considered of sufficient value to call for recognition.

This revision contains so much that is new and so much that is put in better form than in the last edition, a brief notice like the present one can scarcely touch upon the improvements in even general terms; and we therefore recommend our readers to send to the Merriam Company for a prospectus of this great dictionary.

REPORTS OF SOCIETIES

SOUTHERN MINNESOTA ASSOCIATION

The eighteenth annual meeting of the Association was held in Winona on August 4th, Dr. C. F. Way, the president, in the chair.

Since its last annual meeting death has taken the following members of the Association: Dr. J. W. McGaughey, Winona; Dr. J. P. Davis, Hammond; Dr. W. S. Wood, Blooming Prairie; Dr. C. N. Hewitt, Red Wing, and Dr. A. J. Stone, St. Paul.

Papers were read on the following subjects: A memorial on Dr. McGaughey, by Dr. Wm. J. Mayo, Rochester; a memorial on Dr. J. P. Davis, by Dr. W. F. Wilson, Lake City; "A Plea for the Better Education of the Young in Sexual Matters," by Dr. O. F. Way, Claremont; "Gall-bladder Disease," by Dr. E. S. Muir, Winona; "Open Treatment of Fractures, Illustrated with X-ray Plates," by Dr. M. Henderson, Rochester; "The Relation of Nasal Affections to General Diagnosis," by Dr. H. Z. Giffin, Rochester; "Medical Treatment of Goitre," by Dr. J. E. Crews, Rochester; "The Health Officer, Physician and General Public in the Enforcement of Health Regulations," by Dr. E. W. Smersh, Owatonna.

In the business meeting the subject of a consolidation of the Association and the Minnesota Valley Medical Association was discussed and only favorably. A committee was appointed to confer with a similar committee appointed by the Minnesota Valley Association. The members of the committee are Drs. W. J. Mayo, D. B. Pritchard, and W. T. Adams.

The following resolutions were adopted:

In the death of Dr. Charles M. Hewitt the medical profession of the world, and especially this Society, have sustained a great and irreparable loss.

Dr. Hewitt was a pioneer in all that was for the betterment of the profession. He fought for years, as the secretary of the State Board of Health, for better health laws and for widening of the powers of the State Board, and to indefatigable labors much of our now efficient health laws are due.

Dr. Hewitt was surgeon-in-chief of the Engineering Brigade from the State of New York during the war

and had the reputation of being the most efficient executive officer in his department. He was a man loved by his friends and respected by his enemies.

Be it resolved, That this Society extend to his family our heartfelt sympathies and that a copy of these resolutions be sent to them.

Be it further resolved, That we mourn the loss of Dr. Alexander J. Stone, who was the father of medical journalism in Minnesota, one of the organizers of the St. Paul Medical College, and continued as Professor of Gynecology through the various changes down to the medical department of the University of Minnesota, which chair he held at the time of his death. He also held many other important positions of trust during his long period of activity, and being a polished gentleman and impressive public speaker, he was particularly prominent in medical affairs.

Be it further resolved, That we have suffered a loss in the death of Dr. Wm. Wood, of Blooming Prairie. Dr. Wood was a young man of exceptional ability. He had recently returned from abroad where he had taken special work in eye and ear work.

R. C. DUGAN.
F. H. ROLLINS.

The following were elected members of the Association: Drs. F. L. Smith, Chatfield; S. B. Haessley, Red Wing; Ellis Henderson, Rochester.

Officers were elected as follows: President, Dr. T. L. Hatch, Owatonna; vice-president, Dr. H. F. McGaughey, Winona; secretary-treasurer, Dr. W. T. Adams, Elgin.

The next meeting will be held in August, 1911, at Winona.

W. T. ADAMS, M. D., Secretary.

CAMP RELEASE DISTRICT SOCIETY

The Society met in Minneapolis on July 28th. After a short business session at the rooms of the Hennepin County Medical Society in the forenoon, the Society attended a clinic in the children's ward at the City Hospital. The subject of infant-feeding was demonstrated by Dr. J. P. Sedgwick.

The afternoon was spent in attending surgical clinics by Dr. G. G. Eitel and Dr. Franklin R. Wright at St. Barnabas Hospital.

The application of Dr. M. H. Marken, of Dawson, was read and referred to the Censors.

Dr. R. D. Zimbeck was elected delegate to the next meeting of the State Association, and Dr. E. M. Clay was elected alternate.

The next meeting will be held in Minneapolis at the time of the meeting of the State Association.

R. D. ZIMBECK, M. D., Secretary.

THE UPPER MISSISSIPPI SOCIETY

The Society met on July 10th at Akely. The meeting was open to the public, and an audience

of 500 was present to greet the speakers. Dr. Marcle, of the Minnesota Sanatorium for Consumptives, presented a paper and views on "The Sanatorium and Treatment of Tuberculosis." Mr. Easton of the Minnesota Society for Prevention and Relief of Tuberculosis, gave a lecture on "Local Work for Consumptives."

The Society also had an exhibition of the State Traveling Tuberculosis Exhibit, and the people were much interested as shown by the large attendance.

G. H. LOWTHIAN, M. D., Secretary.

NEWS ITEMS

Dr. Frank Deason has located at Grafton, N. D.

Dr. S. E. Arnold, of Chicago, has located at Hancock.

Dr. John H. Martin, of Chicago, has located in Lead, S. D.

Dr. J. W. Warren has moved from Owatonna to Blooming Prairie.

Dr. G. Fairmanian has moved from Martin, N. D., to Dickey, N. D.

The physicians of Williston, N. D., have organized a medical society.

Dr. Morey L. Reed, of Lemmon, S. D., died last month at the age of 51.

Dr. J. R. Elsey, of Glenwood, is the secretary of the new hospital association of that city.

Dr. Iver S. Benson, of Jackson, has been in the East doing post-graduate work for some weeks.

Dr. George D. Crossette, of Swanville, and Miss Caroline L. Ludenia, of Culdrum, were married last month.

Dr. Clara M. Hayden, of Clarinda, Iowa, succeeds Dr. Olive Thorne on the staff of the St. Peter State Hospital.

Dr. P. H. Bennion, of St. Paul, has returned from several weeks of post-graduate work in the Chicago Policlinic.

Dr. C. S. Sutton, of Minneapolis, State University, '09, has formed a partnership with Dr. R. I. Hubert, of St. Cloud.

Dr. Carl B. Teisberg has been appointed an

assistant physician in the St. Paul City and County Hospital for one year from October 1st.

Dr. William H. Rowe, of St. James, has been appointed surgeon-general on the staff of Governor Eberhart, to succeed the late Dr. A. J. Stone.

The Aberdeen and Watertown (S. D.) District Medical Societies held a joint meeting last week at Watertown. Several St. Paul and Minneapolis physicians attended the meeting.

Dr. P. F. Kearney has sold his hospital and practice at Glen Ullin, N. D., and will spend several months in the East doing post-graduate work, after which time he will settle elsewhere.

Dr. F. A. Engstrom, who recently moved to Iowa from Battle Lake, has formed a partnership with Dr. A. Anderson, of Estherville, Iowa, under the firm name of Anderson & Engstrom.

Dr. Clarence P. Rice, of Breckenridge, and Miss B. Agnes Hughes, of Minneapolis, were married last week. Dr. Rice and his bride went east, and the doctor will take a course of post-graduate work before his return.

Dr. A. W. Jones, who is a member of the Board of Education of Red Wing, has succeeded in having sanitary science introduced in the course of instruction of the Red Wing schools, and medical inspection will be undertaken when the schools again open.

The State's detention hospital was opened at Fergus Falls on August 1st. The purpose of the hospital is to remove the stigma placed upon the "mentally disturbed" which follows commitment to a jail or an insane hospital. Physicians not acquainted with the law governing the new detention hospital, should become so at once. Drs. Haugan and McLean, of Fergus Falls, constitute the new State Hospital Commission.

Dr. E. A. Meyerding, school physician of St. Paul, is doing things worth while. He wants penny lunches for the poorly nourished pupils whether they come from the homes of the poor or the well-to-do; he wants additional school nurses; he wants additional office force to look after the work; he wants the abolition of flies in certain schools; he wants the best results in health and school work.

PHYSICIANS LICENSED AT THE JULY EXAMINATIONS TO PRACTICE IN NORTH DAKOTA

Caldwell, G. H. Grand Forks
Craize, A. S. Towner

Cullver, B. W. McKenzie
Deason, F. W. Grafton
Dickey, R. R. Minneapolis, Minn.
Flath, M. G. Churchs Ferry
Hall, A. R. Mandan
Hermann, E. R. Flasher
Hoffman, P. E. Fargo
Johnson, William Hamilton
Keyes, H. E. Maddock
Layton, E. N. Sarles
Lee, Alice L. Valley City
Lommer, C. E. Mayville
McDonald, D. A. Minneapolis, Minn.
McGarry, C. P. Crystal
Perkins, J. R. White Earth
Seeley, C. C. Gwyther
Smith, F. D. Reeder
Smith, H. B. Fargo
Stackhouse, C. E. Bismarck
Staley, J. C. Mandan
Struck, E. C. Henderson, Minn.
Tasche, John G. Glen Ullin

[Notice.—A physician who offers his practice for sale through these columns is entitled to full information concerning an applicant, and unless this is given a reply may not be received, because a physician who sells the good-will of his practice is in duty bound to sell to a man worthy the confidence of his former patients, and to no other man will he make known his intention of changing his location.]

PRACTICE FOR SALE

I will sell my practice of \$3,000 or better in Western Minnesota to the man who will buy my office fixtures and outfit consisting of a static machine, x-ray outfit, electric motor and dynamo, nose and throat outfit, chair, etc., amounting to \$600. Field a fine one with no opposition. Address M. E., care of this office.

FOR SALE

X-ray machine and base, air-pump, operating-table, rockers, chairs, tables, book-case, mirrors, office furniture and fixtures. This lot of doctor's office equipment will be sold very cheap. Address C. M., care of this office.

PRACTICE FOR SALE

An unopposed practice in Southwestern Minnesota worth from \$2,500 to \$3,000 a year can be had for \$400. Do not write unless you want the place at the price. Address D. E., care of this office.

AN UNUSUAL CASE OF CONGENITAL ABSENCE OF ANUS AND LOWER END OF RECTUM

Joseph Wiener, New York, tells of a new-born infant in whom there was absence of anus and lower part of rectum. An immediate operation, by incision of the perineum, with pushing down of the closed pouch of rectum, and suture saved the life of the infant.—Medical Record.

[illegible]

REPORTED FROM 72 CITIES HAVING A POPULATION OF 1,000 OR UPWARD
FOR THE MONTH OF MAY, 1910

CITIES.	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Acute Anterior Polio Myelitis	Typhoid Fever	Diarrheal Diseases of Children	Cancer	Puerperal Septicemia
Albert Lea	4,500	5,657	5	1												2	
Anoka	3,769	4,053	3								1						
Austin	5,474	6,489	4	1								1					
Barnesville	1,326	1,566	1								1						
Bemidji	2,183	3,800	10	2	2						2						
Blue Earth	2,900	2,364	4					1									
Brainerd	7,524	8,1	12	1	2			1			3					1	
Chaska	2,165	2,085	1														
Chatfield	1,426	1,300	2														
Cloquet	3,074	6,117	6	1										1			
Crookston	5,359	6,794	7									1					1
Detroit	2,060	2,149	5		1											2	
Duluth	52,968	64,942	81	6	1	7			6			1			7	2	2
East Grand Forks	2,077	2,481	1														
Ely	3,712	4,045	3		1												
Eveleth	2,752	5,332	6	1	1									1	1		
Farihaunt	7,868	8,279	12	2							1					1	
Fairmont	3,440	2,955	0														
Fergus Falls	6,072	6,692	8	1	1							1					
Granite Falls	1,214	1,340	*														
Hastings	3,811	3,810	1													1	
Hutchinson	2,495	2,489	7	2							1						
Jordan	1,270	1,311	1														
Lake City	2,744	2,877	4														
Litchfield	2,280	2,415	2														
Little Falls	5,774	5,856	3		1										1		
Luverne	2,223	2,272	3														
Le Sueur	1,937	1,842	4			2	1										
Madison	1,336	1,604	1														
Mankato	10,559	10,996	18	2	1	1				2		1				2	
Marshall	2,088	2,243	1														
Melrose	1,768	2,151	1														
Minneapolis	202,718	261,974	282	21	3	28		11	8	13				5	4	16	2
Montgomery	979	1,281	3			1											
Montevideo	2,146	2,595	1													1	
Moorhead	3,730	4,794	3		1												
Morris	1,934	2,003	0														
New Prague	1,228	1,419	2														
New Ulm	5,403	5,720	4														
Northfield	3,210	3,438	4			1											
Ortonville	1,247	1,612	3	2													
Owatonna	5,561	5,651	4	1	1												
Pipestone	2,536	2,885	0														
Red Lake Falls	1,885	1,797	3	1													
Red Wing	7,525	8,149	10	2													1
Redwood Falls	1,661	1,806	1														
Renville	1,075	1,229	1														
Rochester	6,843	7,233	19		1										2	6	1
Rushford	1,100	1,133	2													1	
St. Charles	1,304	1,238	0														
St. Cloud	8,663	9,422	8				1									1	
St. James	2,607	2,320	3								2						
St. Paul	163,632	197,323	219	20	6	33	2	10	4	4				2	6	5	1
St. Peter	4,302	4,514	4	1													
Sauk Centre	2,220	2,463	0														
Shakopee	2,046	2,069	2														
Sleepy Eye	2,046	2,312	3	1		1											
South St. Paul	2,322	3,458	3														
Stillwater	12,318	12,435	6					1							1		
Thief River Falls	1,819	3,502	2	1							1						
Tower	1,366	1,340	2													1	
Tracy	1,911	2,015	1													1	
Virginia	2,962	6,056	8			1									1	1	
Wahasha	2,528	2,619	3								1					1	
Warren	1,276	1,640	3											1		1	
Waseca	3,103	2,838	4													1	
Waterville	1,260	1,383	2					1			1						
West St. Paul	1,830	2,100	4		1	1			1								
Willmar	3,409	4,040	1	1							2						
Windom	1,944	1,884	2														
Winona	19,714	20,334	15	1		1			3	1							
Worthington	2,386	2,276	3	1													

*No report received. Health officer not doing his duty.

REPORTED FROM 65 VILLAGES HAVING A POPULATION OF 1,000 OR UPWARDS
FOR THE MONTH OF MAY, 1910

VILLAGES.	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Acute Anterior Polio Myelitis	Typhoid Fever	Diarrheal Diseases of Children	Cancer	Puerperal Septicemia
Ada	1,253	1,515	0														
Adrian	1,258	1,184	0														
Aitkin	1,719	1,896	0														
Akeley		1,636	0														
Alexandria	2,681	3,051	7			1											
Appleton	1,184	1,321	0														
Belle Plaine	1,121	1,301	2														
Benson	1,525	1,766	4			1				1							
Breckenridge	1,282	1,850	2														
Buffalo	1,040	1,124	2								1						
Caledonia	1,175	1,405	1	1													
Canby	1,100	1,505	1														
Cannon Falls	1,239	1,460	0														
Cass Lake	546	1,062	0														
Chisholm		4,231	6	1		2											
Dawson	962	1,056	1														
Delano	967	1,023	0														
Fosston		1,000	2														
Frazee	1,000	1,146	6		1	1											
Glencoe	1,780	1,805	0														
Glenwood	1,116	1,718	0														
Graceville		856	1														
Grand Rapids	1,428	2,055	6					1									
Hallock		805	0														
Hibbing	2,481	6,566	14	2	2	2		1	1			1					
Jackson	1,756	1,776	2														
Janesville	1,254	1,205	2		1												
Kasson	1,112	1,049	1														
Kenyon	1,202	1,252	0														
Lake Crystal	1,215	1,231	1								1						
Lanesboro	1,102	1,041	0														
Long Prairie	1,385	1,256	1														
Madelia	1,272	1,290	1														
Milaca	1,204	1,319	0														
Mountain Lake	959	1,063	2								1						
North Mankato	939	1,129	0														
North St. Paul	1,110	1,400	0														
Olivia	970	1,019	0														
Osakis	917	1,056	0														
Park Rapids	1,313	1,719	0														
Pelican Rapids	1,033	1,095	0														
Perham	1,182	1,366	2														
Pine City	993	1,092	0														
Plainview	1,038	1,140	1														
Preston	1,278	1,320	1														
Princeton	1,319	1,704	0														
Rush City	987	1,041	0														
Rushford	1,062	1,040	0														
St. Louis Park	1,325	1,491	1														
Sandstone	1,189	1,589	0														
Sauk Rapids	1,391	1,552	2			1											
Scanlon		1,122	1														
South Stillwater	1,422	1,572	0														
Springfield	1,511	1,546	0														
Spring Valley	1,770	1,573	1														
Staples	1,504	2,163	0														
Two Harbors	3,278	4,402	8	1		2					2						
Wadena	1,520	1,868	0														
Wells	2,017	1,814	4			1											
West Minneapolis	2,250	2,530	0														
Wheaton	1,132	1,346	0														
White Bear Lake	1,288	1,724	0														
Winnebago City	1,816	1,553	*														
Winthrop	813	1,031	1														
Zumbrota	1,119	1,129	1														
State Institutions			32	4		3		1									
Other parts of State	1,012,328	1,085,886	676	60	11	52	3	15	7	16		10	1	3	16	39	4
Total for State	1,751,395	1,979,658	1661	143	30	155	8	42	32	57		16	1	15	43	89	12

*No report received. Health officer not doing his duty.

180 Still births and premature births, not included in above totals.

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PUBLISHER'S DEPARTMENT

SPECIAL PRICES ON CHAIRS, TABLES, AND CABINETS

Messrs. Sharp & Smith of Chicago are advertising a very nice line of physicians' operating chairs and tables, and also instrument and dispensing cabinets. Physicians requiring such supplies should communicate with this house at once in order to avail themselves of the exceptionally low prices at which these articles are offered.

THE ALLISON COMPANY MAKES AN IMPOR- TANT PURCHASE

It will be of interest to our readers to learn that the W. D. Allison Company of Indianapolis, Indiana, have recently purchased all the patents, patterns, stock and good-will pertaining to the surgical chair business of the Canton Surgical & Dental Chair Company of Canton, Ohio. This purchase includes the Yale, Yale-Martin, Oxford, and Cornell chairs and gives to the Allison Company a line of manufacture in connection with their own No. 1, No. 7, and No. 8 chairs which will afford a wide range of selection as to price, design, practicability, etc.

Those who prefer a chair for office examinations and treatment will be glad to know that these articles have passed into the hands of a firm whose reputation for the past twenty-five years for high-grade construction and careful attention to details has been the by-word of the medical fraternity.

The Allison Company have been advertising in THE JOURNAL-LANCET for a long time, and we take pleasure in advising any one interested in securing office equipment to address them a letter of inquiry. Their advertisement appears on another page of this issue, and they manufacture everything in the way of tables, chairs, medicine and instrument cabinets, stools, hospital supplies, etc., which can possibly be required by the physician.

One commendable feature of their business policy is the fact that they offer an absolute guarantee as to workmanship, material, and finish on everything which goes out of their plant, and in this day and age of cheap construction, faulty material and indifferent finish it is refreshing to find a concern so solicitous of its welfare as to back up its products by so thorough a guarantee. Parties who have been users of Allison appliances in the years which have passed invariably speak highly of the serviceability and general usefulness of their line as well as the absolutely straightforward policy pursued in dealing with their customers.

THE "STORM" BINDER AND ABDOMINAL SUPPORTER

The profession is a unit in believing in the usefulness and actual necessity of some form of abdominal binder after operations upon that region. The variety of binders that have been put upon the market is almost without number. The very fact that so many different kinds have been in use indicates that most of them have been unsatisfactory.

Dr. Katherine L. Storm, of Philadelphia, has placed upon the market a form of abdominal binder and sup-

porter which bids fair to become the most popular of any yet introduced to the profession. This binder took the prize offered by the Managers of the Woman's Hospital, of Philadelphia. It is a light, flexible, washable and durable appliance, without rubber or steel in its construction. It is used for any purpose for which an abdominal supporter may be needed for a man, woman or child. It is applicable for *general* support, and, by means of a reinforcing strap, with pad, it may be used for *local* support as well, for instance, for hernia. It is especially valuable for movable kidney, enteroptosis or Glenard's disease. It is an ideal post-operative binder. It is a great comfort to women during the pregnant and puerperal states. It is readily adjusted and produces no discomfort when worn. Measurements may be taken, and supporters ordered from the manufacturer, Katherine L. Storms, M. D., 1612 Diamond street, Philadelphia, Pa.

Those who have used the "Storm" binder have been particularly well pleased with it, and for this reason we are anxious that our readers should become acquainted with its many virtues. The company keeps a record of all measurements sent in, so that orders may be duplicated without difficulty or loss of time. All mail orders filled within twenty-four hours on receipt of price.

FUNCTIONAL NEUROTIC DISORDERS

The various vital functions of the organism are so intimately associated and correlated that it is impossible to definitely attribute any chronic nervous illness to disease or derangement of *but one* of the great bodily systems, i. e., circulatory, respiratory, digestive, lymphatic or nervous. The many neurotic conditions which the physician is so frequently called upon to treat cannot be successfully attacked by confining treatment to the nervous system exclusively, any more than can the cutaneous affections—acne, eczema or urticaria, be permanently relieved by lotions, washes and unguents alone. Neurasthenia, Nervous "Breakdown," Nervous Prostration, "Brain-fag" and allied states are usually but neurotic manifestations of some constitutional metabolic fault, which must be sought out and remedied if intelligent therapy is to be applied. Among the various pathologic conditions which oppose the relief of neural disorders, anemia, whether primary or secondary, is always worthy of therapeutic attention. Unless the blood supply is relatively normal in both quantity and integrity, its oxygen-carrying capacity is "below par" and, consequently, metabolic exchange and interchange is embarrassed and the necessary improvement in bodily nutrition is difficult of accomplishment. Pepsin-Mangan (Gude) stimulates and encourages oxygenation and nutrition, by furnishing the more or less impoverished blood with an immediately appropriable form of its vital metallic elements, iron and manganese. The vital stimulus thus imparted is often the one thing needful to initiate the substantial systemic "building up" process which must precede the desired recovery from neurotic disorders.

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TREATMENT OF DIABETES

In the Med. Klinik, 1905, Nos. 55-56, Dr. Manfred Fraenkel, of Berlin, presented a new theory of the pathogenesis of diabetes, based on the idea that normally the transformation of glycogen into sugar is due to a ferment which arises from the decomposition of red blood corpuscles. This ferment is produced more rapidly when there are circulatory disturbances—until a point is reached when the quantity of sugar created no longer can be utilized, supersaturates the blood, and is excreted in the urine.

A condition for normal utilization of sugar is a normally functioning vasomotor system, with its center on the floor of the rhomboid fossa, a normal pancreas. The trophic factors are of no small importance. A dominating position over the entire vasomotor system of the liver must be ascribed to the vagus. In this connection the relationship between diabetes and tuberculosis is of much interest. Bernard found sugar-forming fibers in the lung fibers of the vagus, so that any injury to the former must also strike the latter. This explains the secondary occurrence of tuberculosis in diabetes.

Fraenkel then points out the possibility of influencing the vagus by means of eserine. He considers the activity and pathology of the pancreas and the pathology of diabetes in general, and emphasizes that changes in the pancreas present themselves as interstitial degeneration, especially of Langerhans' cells. These, too, have their cause in the circulatory disturbances. In diabetes all other organs always show signs of extensive hyperemia. The final link in his chain of reasoning is the significance of arteriosclerosis. He cites Noorden and Croner in support of the connection between it and diabetes. Arteriosclerosis is primarily the expression of circulatory disturbances, and according to the location of the vascular injury one subject is exempt from diabetes, while another succumbs thereto when the arteriosclerosis establishes itself in the hepatic vessels.

He therefore combined eserine with the modified salts of Trunczek's serum (antisclerosin), the tablets being given the name of "diabeteserine," and used the same with very good results in 22 of 29 cases, while he demonstrates by several histories.

This preliminary publication has found confirmation in the reports of Markbreiter (Wien med. Presse, 1906, No. 36); Assmann (Medico, 1906, No. 22); Huber (Zentralblatt f. d. ges. Therapie, 1906, No. 9); and Friedmann (Oesterr. Aerzte-Zeitung, 1906, No. 12).

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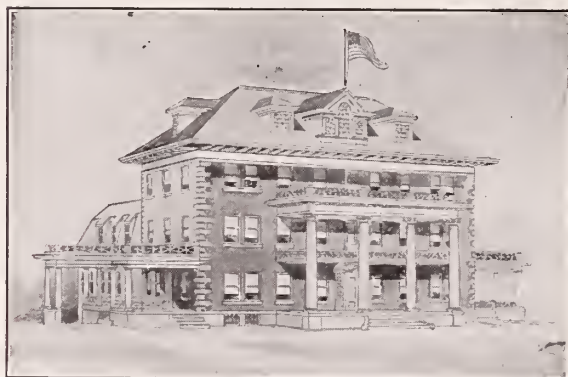
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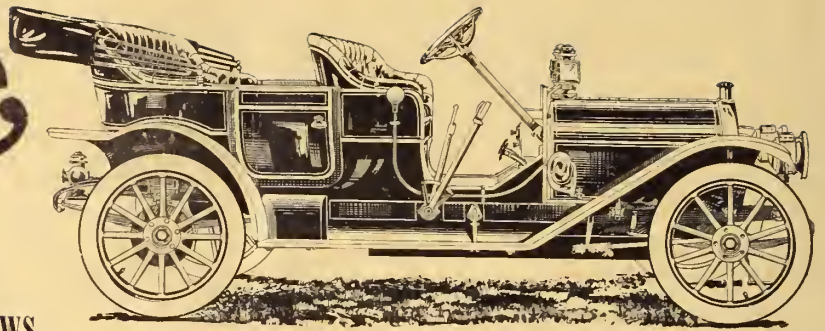
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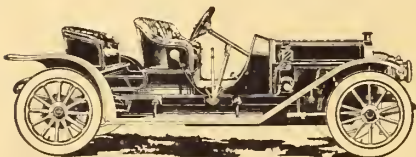


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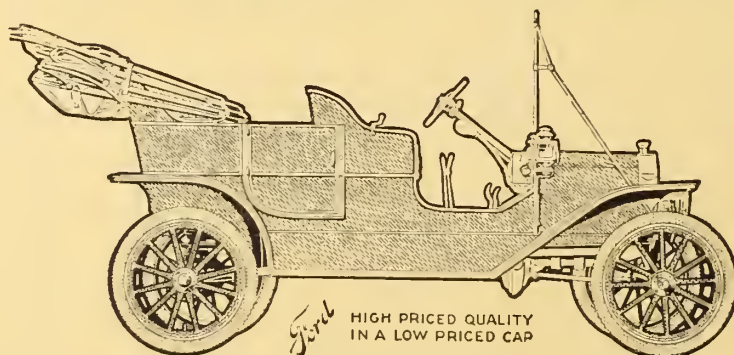
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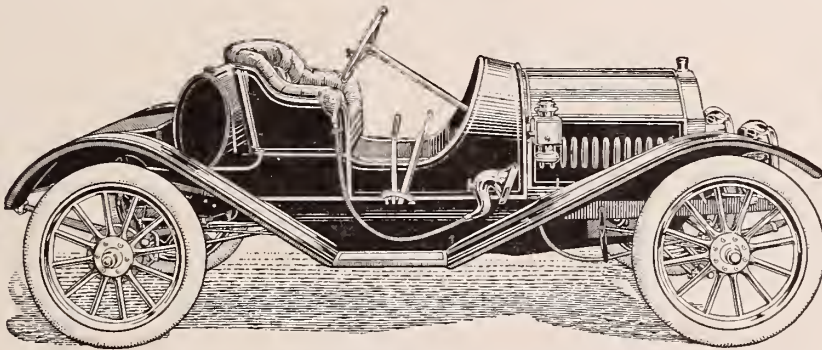
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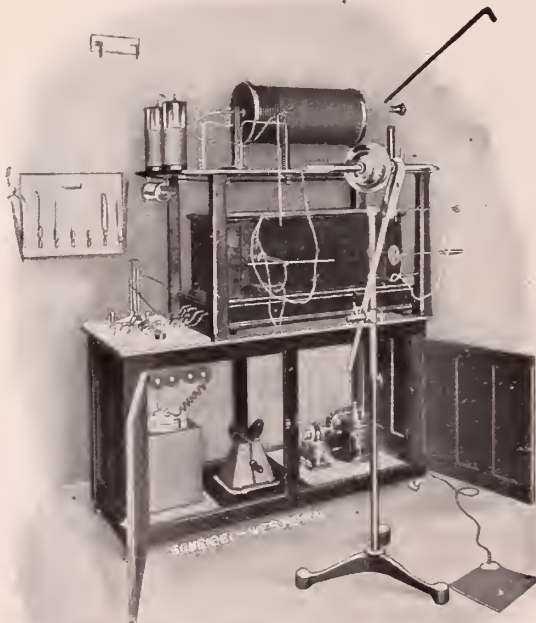
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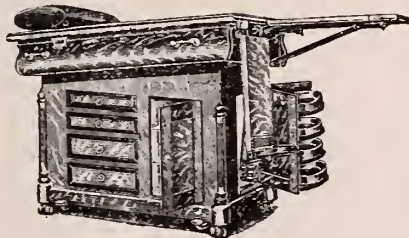
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MUNICIPAL WATER-SUPPLIES*

BY RICHARD OLDING BEARD, M. D.

Director of the Department of Physiology and Pharmacology, University of Minnesota

MINNEAPOLIS

The integrity of municipal water-supplies has never engaged popular, not to say expert, interest as it does today. The demand for pure water is growing with the better understanding of the causes of its pollution and the possibilities of its purification.

The first expectation of the people for a public water-supply is that it shall be macroscopically, as it is microscopically, pure; that it shall be free from algæal, as well as bacterial, contamination; that it shall be clear and colorless, relatively soft, and pleasing to sight, smell, and taste, as it is untainted by pathogenic organisms. The people will not accept the bacterial standard of purity in a water which is turbid and color-stained or of offensive taste and odor.

The sources of municipal water-supply fall into the simple classification of (a) underground and (b) surface waters.

From the standpoint of quality, physical and bacterial, the artesian sources of supply are attractive. For the sake of a clear, cold, uncontaminated water, the public at large is willing to put up with a certain measure of hardness, which, in water drawn from the deeper sand-stone basins, is usually extreme.

In theory, hard waters are physiologically objectionable to the human subject. Experimentally, this objection has not been established. From the standpoint of their commercial and factorial uses, they are costly. The burden of

consumption of soap and softening compounds and of expense for re-piping, boiler renovating, and the like, is very great and should make a community pause in adopting this source of supply.

But the most forceful argument against the adoption of an artesian supply is the unremovable element of uncertainty as to quantity and chemical quality alike. The capacity of sand-stone basins is indeterminable, and the permanence of supply is a matter of dangerous conjecture. The history of deep wells includes too many instances of exhaustion for security, and proves the frequent existence of subpockets, in these formations, which limit flow. The experiences of failure have been too costly to venture them upon a large scale. Instances are, moreover, on record in which artesian waters, initially satisfactory, have been infected with iron and manganese in such quantities as to demand treatment and removal, at large expense, or even to render their further use impossible. The "Breslau calamity," so-called, is a case in point, wherein the water-supply of this German city, costing a half million dollars, was ruined by a sudden seepage of these chemicals into the water-basin in prohibitive proportions.

It is these uncontrollable conditions which have made public officials and water commissions hesitate to recommend the adoption of underground systems in large cities.

Instances of bacterial contamination of deep wells from surface sources have been known,

*Read before the Minnesota State Sanitary Commission, at Winona, October 12, 1909.

but these are of so rare and accidental occurrence as to put them outside the limits of reasonable consideration.

Surface waters are to be dealt with fairly as a single class. Whether existing in natural reservoirs, as lakes, or in runways, as rivers, they are of similar origin and liable to identical conditions. Storage of surface waters, whether in natural or artificial basins, tends to softening and to purification by sedimentation, and this is equally true of an impounded river, as it is of a native lake. Whatever differences exist between lake and river waters are differences of degree and not of kind. Both are liable, in direct proportion to the number of the residents upon their shores, or upon the banks of their tributaries, to contamination from surface drainage and sewage discharge. The shores of a lake are somewhat more susceptible of police control than are those of a river.

So far as specific pollution is concerned, i. e., so far as the presence of pathogenic organisms goes, a single diseased person upon a watershed may be, at any time, a sufficing cause of contamination of a water-supply. The danger of such pollution is simply multiplied with the increase of population, upon either lake or river, and is compounded by the discharge of sewage into either en masse. And as all surface waters are of identical origin and general character, so they are equally susceptible of identical treatment. The presumption, in all occupied and civilized countries, is of their demand for such treatment in all cases alike. Authorities are practically a unit in their view that no surface water, of whatsoever origin, can be considered fit for human consumption without purification; and that with any surface water drawn from any source, amid any of the habitations of men, however initially pure it may be, it is only a question of time before it must be subjected to treatment to maintain or to restore its potability.

Lake waters possess the characteristics of relative softness and natural storage, to which may be added the advantage of possible readiness of delivery. The term *softness* is, of course, a purely relative one. The soft waters of the West would be considered hard waters in the East. The softest supply known in the State of Minnesota, is the water of the St. Croix Lake, which has a total hardness of forty parts per million, but it is hard compared to the water of the Clinton Reservoir on the Wachusett water-

shed of Massachusetts, which averages but fifteen parts per million.

The purifying influences of storage are, in part, dependent upon sedimentation and, in part, upon the progressive scarcity of the organic material in such stored waters, upon which bacteria thrive. So far as sedimentation effects this result, it depends very greatly upon the depth in proportion to the area of the basin. A large and relatively shallow lake is deeply wind-swept, and this fact narrows the possibilities of precipitation. Again, in a deep lake, the bacterial consequences of the spring and fall turn-over have to be reckoned with at those seasons.

The total capacity of a lake reservoir is a matter of some importance with respect to the possible dilution or distribution of small numbers of pathogenic organisms present. The wind-sweep of a lake may be a favorable or an unfavorable influence in the dilution, according to the point from which contamination comes.

Lake water is more apt than river water to take color-stain, on account of the longer opportunity for the maceration of decaying vegetable matter which its storage affords.

In common with all stored or impounded water, lake water serves as a medium for the development of various types of algæ, which, undergoing decomposition at certain seasons of the year, give to the water an unpleasant odor and taste. No surface water remains entirely free from these growths when it is stored in shallow bays, inlets, and basins, or in seasons of special stagnancy, in deeper parts; and this infection extends, from these culture-places, through the water of large lakes. Algæ appear in and pollute even filtered water when it is stored in open reservoirs. Solutions of sulphate of copper have been used for the destruction of these algæ with some success and without apparent harm.

In considering the possibilities of a lake supply, the question of quantity is a more critical one than it commonly appears. Observers are apt to be deceived into a dangerous confidence by the large surface area of a lake. Without adequate depth, extent of surface is a prejudice from the standpoint of relative evaporation. In no reservoir, be it natural or artificial, can direct rainfall be relied upon for supply. The margin over evaporation, especially in a lake of large surface and little depth, is too narrow. The rainfall upon its watershed is the factor of reliance and the area of the watershed is therefore the point of real importance. It is estimated

that twenty per cent only of this factor can be counted on for quantity.

Whenever a watershed is small, relatively to the lake area and capacity, the lake is to be looked upon, in direct ratio to its size, as of doubtful character in the matter of the constancy of supply.

The distance of a lake, or chain of lakes, from the municipality in search of water, must be economically considered. Long-distance sources are commonly favored, because of the scantier population surrounding them; but it is oftentimes a serious question whether the supposedly greater security from contamination justifies the large cost of delivery. Even if no elevations are to be overcome, the doubt fairly remains.

Certainly if the prevalent judgment of experts, that all surface waters to be safe must be purified, is to be accepted, the choice between an available river and a distant lake is rather readily made. In point of accessibility and of constant quantity, the rivers usually have the advantage.

That water, no matter how, or how greatly, polluted, can be efficiently purified,—that, at comparatively small cost, sewage water, even, can be made potable and safe,—is a truth which has gone to the point of demonstration the world over and with every variety and degree of contamination. That this fact has been made to serve as an argument to condone pollution is its only misfortune. It certainly contravenes the necessity for going far and spending large sums to secure pure water.

The only type of river water which offers serious difficulty to treatment is the rarely hard water of a few streams. So far, the softening process has not given great encouragement to its promoters. A very moderate degree of hardness is practically reducible and that at the cost of the massive use of initially expensive chemicals, the coagulants of which are, again, costly of removal in their necessarily great bulk. With the reduction of a degree of permanent hardness, temporary hardness is often notably increased.

In the treatment of water for purposes of purification, the item of primary importance is storage. The value of a natural basin to this end is apparent. In its absence, as a preliminary to any method of treatment, artificial reservoirs should be provided; for while storage does not do away with the necessity for other measures, it lessens by fully one-half the burden of purifi-

cation for which they must be responsible. Storage basins, to accomplish this large result, must be sufficiently large to permit of the housing of several days' supply; suitable provision must be made for their periodical cleansing; and pressure-hydrants should be provided upon their margin for the economic performance of this service and opportunity had for the washing away of the accumulated sludge.

The following after-means of treatment are in vogue in the purification of water:

- (a) Ozonization.
- (b) Chemical treatment.
- (c) Chemical treatment with rapid filtration.
- (d) Chemical treatment with slow sand filtration.
- (e) Combined rapid and slow sand filtration.
- (f) Slow sand filtration.

Ozonization.—The destruction of water-borne bacteria and the bleaching of water by means of electricity are theoretically ideal attempts. Up to the present time the signal success of the process in the latter direction has been dangerous in view of its practical failure in the accomplishment of the former and larger purpose. The clarity of a still infected water becomes a menace.

That electrical ozonization has failed in the task of bacterial destruction is apparently due to two things: (1) the uncertainty of its operation under climatic changes; and (2) the want of means to secure the equitable distribution of electricity through large volumes of water. We may add to these practical difficulties the excessive cost of the process, which renders it prohibitive on a large scale.

Chemical treatment.—The attempt has been made in waters of notable physical, as well as bacterial, impurities to secure the effective precipitation of both by the use of coagulative chemicals, without the aid of filtration. It has been only measurably successful and that in waters which carry a large complement of heavy clay which serves to assist the chemical coagulum in carrying down bacteria. The practical impossibility of determining either the chemical adequacy of the coagulant or the completeness of the mass precipitation renders the result always doubtful and therefore dangerous.

Very recently, chemical treatment has been addressed, not to the precipitation, but to the destruction of bacteria by oxidation. The agent which has been used very successfully for this

purpose in those waters in which an excess of organic matter does not obtain, is the hypochlorite of calcium, or ordinary bleaching powder. It has proved, indeed, remarkably effective. It is being used alone, subsequently to storage, in the purification of the water-supply of Jersey City at Boonton, New Jersey, on the Rockaway River.

In other places it has served as an adjuvant to filtration. First used for the purification of the sewage effluent of Baltimore, which was prejudicing the oyster-beds of Chesapeake Bay, it has since been employed in effecting the potability of different waters, both in this country and in Great Britain. The studies of Dr. Thresh have called particular attention to it in England.

A substitute for the hypochlorite of calcium has been found in the electrolytic decomposition of the chlorine from sodium chloride, the output of which can be scientifically measured and controlled.

By either means of employing this agent, bacterial destruction has proved practically complete, and the method promises to afford a water, not only pure but free from chemical taint, and proof, for a definite period of time, against re-infection.

Chemical treatment with rapid or mechanical filtration.—This combination of methods for the purification of water is one which, by the precision of its process and by its perfect mechanical control, impresses the observer profoundly. It employs either the sulphate of alumina with carbonate of soda, or the sulphate of iron with milk of lime, these chemicals acting as coagulants and forming a coagulum, which is partially precipitated and partially removed by filtration. This coagulum, serving as an artificial *Schmutz-decke* upon the top of the sand layers of the mechanical filter, acts as an impervious net, within which bacteria are retained.

The water, so chemically treated and having been confined in settling-bins for some hours, is run upon small filter-beds, under high head, and rapidly filtered through. In consequence of the rapid filtration, running as high as one hundred million gallons per acre per day, these filters require frequent cleansing, which is had by mechanically reversed currents of air and water, breaking and flushing off the *Schmutz-decke* from the surface of the bed.

Chemical treatment with slow sand-filtration.—The same chemicals have been employed in some few instances as artificial coagulants in aid

of slow sand-filtration. Where they have been so used, it has been necessary to resort to prolonged sedimentation, after treatment and before filtration, since the artificial *Schmutz-decke*, being superadded to the natural *Schmutz-decke*, which the bacteria themselves tend to form in the large sand areas of these filters, tends to speedily clog the beds and to necessitate too frequent cleaning. The combination appears, at its best, to be a crude one, associating methods which are antagonistic in principle and in process.

Combined rapid and slow sand-filtration.—In the treatment of waters polluted, alike with large numbers of bacteria and with large quantities of fine physical impurities, double filtration has been resorted to in certain cities. The rapid or mechanical filter has been first employed for the removal of the excess of material which over-burdens the slow sand beds, and this removed, the water is run upon the large sand-filters for its final purification. The results have been satisfactory, saving in those waters which carry a fine clay unremovable by even repeated filtrations, which persistently colors the filtered water.

Slow sand-filtration.—The essential feature of slow sand-filtration is its automatism; that is, its principle is the formation of a felt of deposited bacteria and their products in the uppermost layers of sand, which serves as the prime filtering medium, the sand layers below acting merely as subsidiary media for the removal of the residue of organisms which accidentally escape the *Schmutz-decke*. This felt-work is an agent, not only of bacterial separation, but of bacterial death. The efficiency of such a filter depends therefore upon the number of bacteria present and reaches the limit of its usefulness by an excess of its own virtues, its increasing imperviousness diminishing, below an economic level, the quantity of water which passes through within a given time.

Occasional periodic cleaning becomes necessary, and this is accomplished through a scraping process, by which the upper portion of the too impervious *Schmutz-decke* is removed and usually ejected from the filter-house and subsequently washed by hydraulic means. From time to time the removed sand is replaced with a clean store, and a certain interval of abortive filtration follows until an efficient *Schmutz-decke* is again formed.

With the application of mechanical devices to

the sand-filter, for regulating pressure-head, for cleaning the beds, and for removing and replacing sand, its operation has become more rapid, and its results, in a given area, more nearly approximate those of the true mechanical filter; nevertheless, it is measurably wanting in the precision of its action and the nicety of control in which the latter method excels, while its demand for large areas, much labor, and great cost of installation are economic arguments against its adoption.

For an essentially bad water, slow sand-filtration, with rapid prefiltration, is a safe and a sure measure, but with a water of moderate pollution, chemical treatment and mechanical filtration are economical, alike in cost of construction and of operation.

The lesson one learns from a study of many and widely varying waters is that successful purification is a matter of careful adaptation of means to ends and can be attained only by study and experiment of the individual supply. The general principles are to be recognized in every case, but the special application of them is something to be learned.

No discussion of the problem of municipal water-supply is complete which does not recognize the root-evil of the pollution of waterways and natural reservoirs by human sewage.

In the last analysis, the problem of water-purification must be the problem of sewage disposal. It is a luminous commentary upon the quality of our civilization, the depth of our humanity, as well as our business sense, that we not only continue the pouring of the sewage of our cities into lakes and rivers, but that commercial-

ists and economists vie with each other in defense of this disgusting and uneconomic practice.

Year by year we deplete the soil of its nutritive qualities for our own feeding and that of our animal stock, and continuously we decline to restore to it the invaluable residues which men and beasts eliminate and which represent the elements of the life-blood of an impoverished earth. And this monumental waste we perpetrate in our own despite, not only alienating from the soil the nutriment it needs, but putting it where it works the greatest possible prejudice to the public health through its pollution of the great water-supplies of the country. And why? Merely because men move like unembodied energies in the direction of the least resistance and do the thing, to their own infinite damage and inevitable disdain, which is easiest to be done.

Happily, there are signs of the awakening of a public conscience, of the enlightenment of public judgment, upon this greatest of all sanitary questions. Two or three commonwealths have enacted laws putting into the hands of their state boards of health the power to regulate the disposal of sewage. The enactment of these measures in other states, and their enforcement in all, must await the education of a public sentiment which will reincarnate the wisdom and the humanity of Moses who forbade the contamination of water-sources with every form of waste. The lesson of the self-conservation of human life is written large in human experience, but it waits the large appreciation of a generation which knows, in its own day, "the things which belong unto its peace."

MEMBRANOUS PERICOLITIS: REPORT OF A CASE

BY EMIL C. ROBITSHEK, M. D.

MINNEAPOLIS

In December, 1908, at the annual meeting of the Western Surgical and Gynecological Association, held in this city, I had the pleasure of listening to a paper entitled "Membranous Pericolitis," read by the author, Dr. Jabez N. Jackson, of Kansas City, Mo. I immediately recognized a condition not unlike that which I had often seen at the operating-table, and which, like many others, I had been wont to call and dismiss as adhesions. Ever since that time I have been on the lookout for just such cases, but have not,

until recently, come across such a marked one as I herewith desire to report.

I have made a thorough examination of the literature to find something on this subject, but have met with no success, and, in a recent communication, Dr. Jackson informs me that he, too, has been unable to find in the literature anything on this subject, as described by himself. It is because I am inclined to believe, with him, that this condition has a distinct pathological and clinical picture of its own which is as yet not

sufficiently recognized by the profession, and because I believe these cases are worthy of more study and attention, that I am prompted to report this interesting and rather typical case.

Miss K. R., white, aged 24, single, occupation domestic, born in Minnesota, outside of which state she has never been with the exception of one month, a year ago, when she went to Nebraska. Her habits are good. Has always been a light sleeper and eater. Drinks one cup of coffee and one of tea each, a day. Father, aged 56, living and well; mother, aged 56, living, but has organic heart trouble. One brother, aged 20, living and well; one died at the age of 32 of pulmonary tuberculosis. Five sisters aged 27, 29, 31, 33, 35, are all living and well; none dead. She had during her childhood the measles and the whooping-cough, which left no complications. She was then in perfect health until she reached the age of ten years. At this time she remembers being taken with a sudden severe pain on her left side, becoming nauseated and vomiting, and having to be escorted home from school, where she was when taken with this attack. She now would locate that pain as having been in the left iliac region, and states, furthermore, that since that time this side has always given her more or less pain when walking fast.

In October, 1909, she was taken with a severe bronchitis, because of which, on account of the severity of the cough and the high fever accompanying it, she was required to stay in bed for two months. However, she made a complete recovery and has been perfectly well up to the present time. There is no history of gonorrhea, syphilis, or injury. Menstruation always regular, of four days duration, and without pain. She has never suffered with her stomach in any way; her bowels are never constipated, and the stools are never of other than a normal color. She has lost no weight.

Present history.—On May 29, 1910, the patient suffered with a slight headache, loss of appetite, and a general feeling of malaise, which lasted the entire week. On Friday, June 17th, having had her usual light lunch at noon, but no evening meal, and having finished her usual work about the house, she began to feel nauseated, and very soon thereafter experienced a cramp-like pain in the epigastrium. She says this pain did not remain localized, but extended across the whole abdomen, which, she found, soon became very tender. She remained up for a couple of hours, after which she went to bed. During the night she vomited a bitter green fluid mixed with

mucus. The next day Dr. Paul Higbee was called. He found the patient unable to get up, complaining of pain in the abdomen, which upon examination he found quite tender. Hot applications were applied and a mild cathartic given, which gave her some relief. The pain, however, did not entirely disappear. It lasted two days and finally settled under her right ribs. The following Sunday she felt quite well again, got out of bed, and began to walk about, and attend to some of her duties, but in the evening she began to feel the pains again under her right ribs. The pains came on gradually and increased in severity, but were checked and somewhat relieved by the application of a hot-water bag. This time she did not vomit. The next morning she felt well enough to perform her duties about the house, but had not been started over an hour when she was suddenly seized with a terrific pain, which, as she says, doubled her up. Again the pain was localized under the ribs on the right side.

There is no history of vomiting, diarrhea, jaundice, or clay-colored stools. The whole abdomen, but more especially the right side, became extremely tender. The doctor was again called, and after affording her relief advised her to go to the hospital. That same evening she suffered a similar attack. A hypodermic of morphine was given, after which she was able to sleep a little. The following day she was transferred to the St. Barnabas Hospital, where Dr. G. G. Eitel was called to see her in consultation.

June 14, 1910. The patient is a woman of slender build, fairly well nourished and of apparently good color. She seems to be rather of the nervous temperament type, but not markedly so. The color of the skin is normal, and the body shows no skin eruption scars. The pupils react to light, and the knee reflexes are normal. No enlarged glands are palpable. The appearance of the mucous membrane is normal with the possible exception of the throat, which is slightly hyperemic. The tongue is moist and clean. The examination of the lungs finds them both perfectly clear. The heart is normal in size and reveals no valvular defects. The radial pulse is soft, the pulse-wave regular and of fair strength and volume; the rate is 114 beats per minute. Her hemoglobin estimate is 90 per cent, and her leucocyte count is 16,200. On account of the extreme tenderness on the right side the liver could not be examined. The spleen is not enlarged, and the left kidney is in good position.

The urinalysis shows the urine to be of amber

color, neutral in reaction, specific gravity 1020, no albumin or sugar. Microscopical examination reveals no casts.

On being admitted to the hospital her temperature was 102.6°. The muscles on the right side are hard, but not rigid; on the left side they are less so. The tenderness is marked over the gall-bladder and the appendix region, and on this account a more thorough examination of the abdomen could not at this time be made. No vaginal examination was made; a rectal examination reveals nothing abnormal.

It was thought advisable to keep the patient in bed for a rest and further observation; however, there was no marked improvement. She ran a daily temperature. A second leucocyte count on July 19th showed 16,000 white-blood cells. The extreme tenderness abated somewhat, but was present now across the lower abdomen. An operation was deemed advisable. The tentative diagnosis was possibly gall-stones or appendicitis.

June 21st, 1910. Under ether administered by Dr. H. L. Ulrich, Dr. Eitel, assisted by Dr. Paul Higbee and myself, made an incision in and through the right rectus muscle. No gall-stones or any adhesions around the gall-bladder were found. The stomach was found normal in position and size; no evidences of ulceration or perforations were present. The pylorus and the duodenum were found normal. The pancreas showed no sign of disturbances. The ascending colon was covered with a thin vascular veil-like membrane in which were seen many bright red-blood vessels, all lying parallel to one another and running across and in the membrane. The membrane in this case was not so thin and transparent as to plainly see the underlying colon, which lay enclosed, as though it were in a loose bag. The density and extent of these membranes vary in different cases: they may be very thin and easily separated or broken up, or they may be

quite strong and dense. Sometimes they cover part or the whole of the transverse colon; at other times affect only the ascending colon. The membrane seems to be peritoneal tissue itself, entirely separate from the peritoneal coat of the colon, and in this case did not restrict the movements of the bowel it enclosed, to any great extent, nor did it affect any other portions of the bowel except that previously mentioned. It originated in the parietal peritoneum and was attached to the mesocolon. The appendix was hard, small, and red in appearance. It was not involved in the membrane and presented no evidence of having been a factor in the cause of the pericolitis. However, it was removed. Nothing was done with the membrane in this case.

Dr. Jackson, in his report* of several cases, believes surgical treatment advisable and that the membrane be removed. As he says, however, not enough time has elapsed to tell what the permanent result of this treatment will be. The kidneys, in this case, were found in correct position and size. The uterus and adnexæ were normal. She had a daily rise of temperature, 99°-101°, until a week or ten days before she left the hospital, which she did, feeling well and strong, on July 14, 1910.

The etiology of these cases is still obscure, and I cannot at this time shed any light upon the subject. Certainly nothing in the history or the operative findings in this case, would give us any definite clue. Not until a further study of these cases, not infrequently seen by the surgeon, is made and recorded, shall we be able to know more about this very interesting condition.

I am indebted to Dr. Paul Higbee and Dr. G. G. Eitel for the report of this case. I might add that an effort will be made to keep this patient under observation and from time to time notations as to her condition will be recorded.

*Surgery, Gynecology and Obstetrics, September, 1909.

VOLVULUS, WITH REPORT OF A CASE*

BY ALEXANDER BARCLAY, M. D.

CLOQUET, MINN.

It is not my intention to go deeply into the etiology, pathology, symptomatology, diagnosis, and treatment of this condition, which can be done at leisure and with more satisfaction than

if I were to attempt to do it here tonight. I shall simply describe a case as it walked into my office, and give a brief outline of treatment and results.

On June 15th at 10:30 P. M., J. P., a Greek section-laborer, aged 25; 5 feet 5 inches tall;

*Read before the St. Louis County Medical Society, at Duluth, July 14, 1910.

weight, 150 lbs., walked into the office, evidently in great pain, being doubled up with hands to his belly and beads of perspiration standing out on his face and neck. He could not talk English. Through an interpreter I found that he was taken ill very suddenly about two hours previously with sharp, stabbing, tearing pains shooting about through his belly, followed by vomiting and prostration. His bowels had always been regular, operating once daily and sometimes twice; and this day was no exception as they had moved well during the noon hour.

As far as could be learned, then and later, his previous history was negative, he never before having had a physician. He had had no chill. His temperature was 99°, and the pulse 100, full and strong. Inspection showed a well-nourished muscular man. He lay with his knees drawn up and a pinched look on his face, and, as stated before, he was bathed in perspiration, the pupils dilated, and he was groaning pitiously.

Palpation revealed a tense belly-wall with marked tumor just to the right of and a little below the umbilicus, about the size of a door-knob. It was hard, slightly movable, and very tender to pressure and manipulation. On auscultation with manipulation an intermittent gurgling, whistling sound was elicited, plain at

the margins of the tumor, but audible for a distance of several inches in all directions.

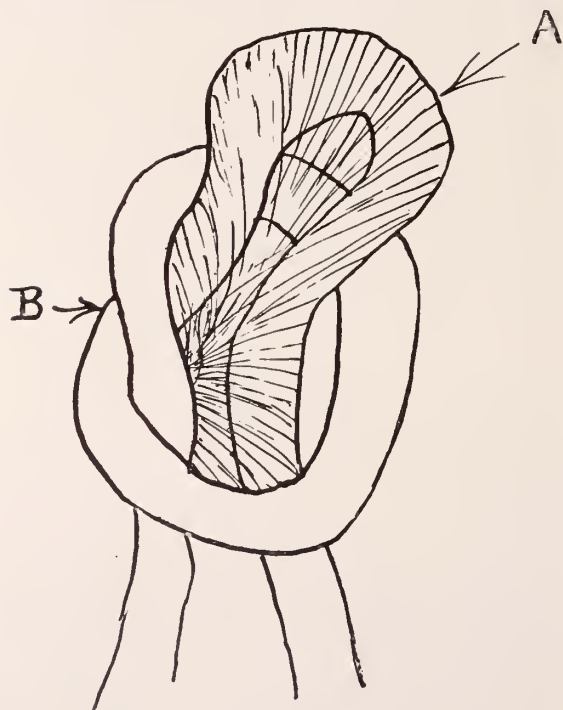
A diagnosis of intestinal obstruction was made. Whether it was due to intussusception, volvulus, or Meckel's diverticulum we did not know. The patient was prepared for operation and with the assistance of Dr. Havens, who saw the case with me from the first, I opened him up over the site of the tumor at 11:15 P. M.

A volvulus was found in the ileum, about 14 inches from the ileocecal valve, and consisted of a loop of intestine tightly wrapped about a knuckle, which it had engaged. This accompanying rough sketch will convey an impression of the condition as met. The knuckle was of course covered with mesentery; and by a little gentle manipulation, pushing more than pulling, it was disengaged without injury to the structures, and the knot resolved instantly. The vessels were pretty well injected, but no severe inflammation in the nature of a plastic peritonitis was encountered. The appendix was normal and unaffected, and on account of the patient's condition we thought better to leave it alone until some future time.

Three rows of catgut sutures were put in the belly-wall, and the man was put to bed. He was delirious all night, and the next morning had a severe cough, and heavy mucous râles all over his chest, with a temperature of 103.5°, and still delirious. We packed his chest in ice, put hot-water bags to his feet, and gave him stimulating expectorants, and that evening he was much improved, the temperature being 99° and the cough very loose. He was given two compound cathartic pills, and he slept well most all night.

The next morning, his second day in the hospital, he said he felt fine. There was still a little cough, which gave him pains in the belly. The temperature was normal, and bowel movement showed no blood. That night, forty-eight hours after his operation, he got out of bed and walked to the toilet unknown to anyone (we learned this the next day from the other patients in the ward), and he apparently suffered no ill effects.

On the fourth day he was dressed and walking about, with no pain or fever. His appetite had been very good after the first day. On the fifth day he insisted on going home among his friends, and after inspecting his wound, which had healed perfectly, and binding him well with adhesive straps across his belly, I let him go.



A, knuckle covered by mesentery. B, knot in bowel.

He walked down the sixty-five steps alone, and the next day, June 22d, the sixth day after his operation, I saw him walking down the track carrying a pail of water in one hand and a crow-bar in the other. I have seen him but once since then. The wound is tight, his bowels have been loose from the effects of a Hinkle pill taken nightly, and he says he feels as good as he ever did.

The fact that the condition was such that, without operative interference, distension,

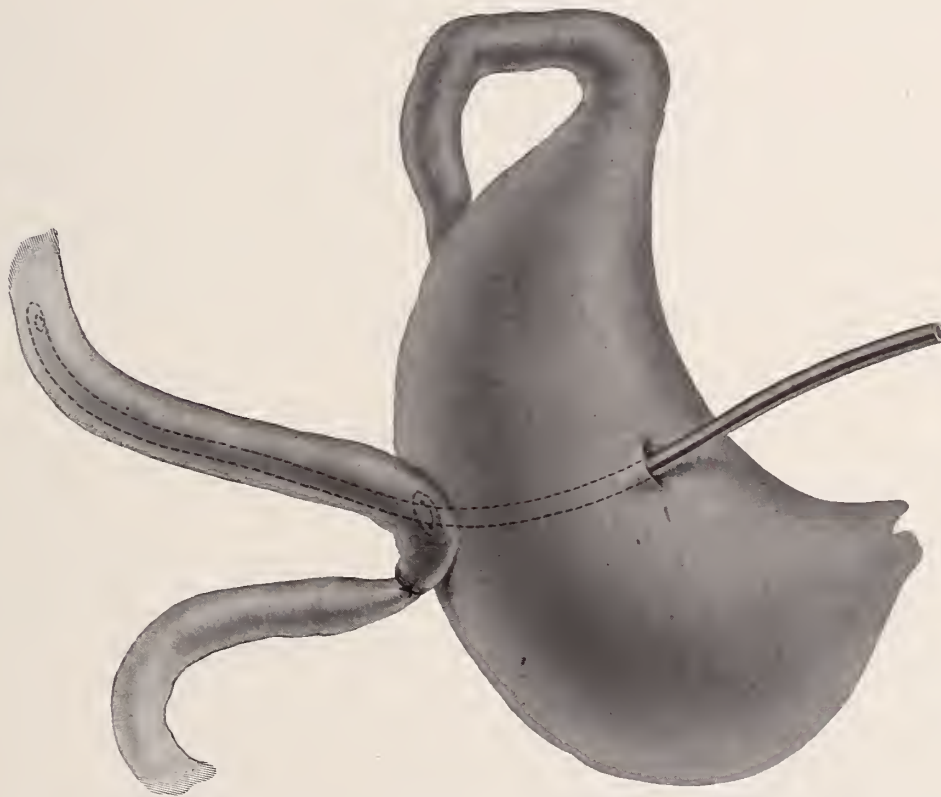
strangulation, gangrene, and death would in all probability have ensued, leads me to urge an early exploratory incision in all cases presenting similar features, for the earlier the condition is removed the quicker will be the convalescence.

There is nothing wonderful about this case except the man's recovery. Volvulus is a rarity, and this is the reason that prompted me to report this case.

TRANSGASTRIC JEJUNAL FEEDING AFTER GASTRO-ENTEROSTOMY COMBINED WITH GASTROSTOMY, TESTED IN A CASE OF ARTERIOMES-ENTERIC ILEUS*

ARNOLD SCHWYZER, M. D.

ST. PAUL MINNESOTA



The problem of feeding a patient suffering from a very vulnerable open gastric ulcer, has many a time been under discussion, and advice to resort, in a desperate case, to a jejunostomy

had remained as the only help, though little satisfactory, first, because an external fistula of the small gut has the tendency to very troublesome leakage (a point which, however, can be avoided by a good technic); second, because dangerous adhesions and kinks in the bowel may be

*Read before the Western Surgical and Gynecological Association, December 20, 1909.

formed; third, because a speedy emptying of the acid gastric juices, the most important element for the cure of the ulcer, is not influenced by it; and, finally, because, on account of this latter, an operation must follow later on in most of these severe cases. It may be said, however, that when the food is taken by mouth in the normal way the gastric juice is by far more freely secreted than by any other ingestion. In extragastric feeding HC1 is therefore to be expected only to a moderate amount in the stomach. Experience has taught that, in the long run, feeding by a gastrostomy fistula is mostly insufficient, and that the patient gradually slowly loses ground by it. It can thus be concluded that by jejunal feeding the nutrition suffers much more, because the presence of chyme in the duodenum is of great importance for the secretion of the pancreas. A jejunal fistula can therefore be of great use only when we have to tide the patient over a starvation of a number of weeks, but there it does infinitely more than rectal feeding. I had concluded that in a case of severest gastric ulcer, where gastro-enterostomy and, in addition, a jejunostomy seemed desirable, a better result could be obtained by a modification of these operations for drainage and for extragastric feeding. This modification I had a chance to try in a case of duodenal obstruction with a most rebellious stomach. This patient does not really belong to the group of cases spoken of, but shows the possibility of usefulness of this procedure in different conditions. The case is, through a number of rarer occurrences, interesting enough in itself to be related in detail.

Sister S., aged 23 years, nurse in charge of one of the floors at St. Joseph's Hospital, who had been in splendid health up to the end of 1907, began to look thinner after that time. She was suffering from very little pain, but could not eat solid food, and during February and March, 1908, was living practically only on buttermilk and even had to gradually reduce the quantity of this latter.

I first saw her on April 6, 1908, and she remained under my observation until April 23d. During this time there was frequent vomiting, and at times the vomitus contained blood. Abstinence from food lessened the amount of vomiting, but did not produce complete cessation. The blandest ingesta in minutest amounts were vomited up very shortly after being taken. The pulse ranged from 50 to 80; temperature, from 98° to 99.6°. All suggestions of surgical inter-

ference were rejected until April 23d, when permission to operate was granted. Preliminary to the ether narcosis, one-sixth grain of morphine with 1-150 gr. atropin, was given hypodermically. On opening the abdomen the stomach appeared slightly ballooned, and also the upper duodenum, the pyloric ring being wide. At the lower end of this dilated part of the duodenum a broad, very firm band of adhesion united the duodenum with the gall-bladder. The tense gall-bladder was found to contain small stones. The gall-bladder was dissected free. The lower ducts were normal. A drain in the gall-bladder was let out through a stab-wound in the right border of the ribs. Air pressed through the lower duodenum by compressing the stomach seemed to pass. The experiment, however, was not beyond doubt. Exploration of the other parts of the abdomen revealed an adhesion of the omentum to the abdominal walls at a point a little below the level of the spleen. This adhesion was divided. The bulk of the omentum was fixed in the pelvis and could not be moved upward, as if broadly adherent. The abdominal walls were tightly stretched and pressed toward the vertebral column, the narcosis then not being complete. We were struck by the lack of space anteroposteriorly in the umbilical region. After forcible forward retraction of the abdominal walls the omentum was gradually drawn out of the pelvis. It was not adherent, but was very bulky. The transverse colon was long and large and had also been lying below the promontory. The small intestines were entirely collapsed and contracted. The condition suggested arterio-mesenteric ileus. The omentum was brought into contact with the wound, and one stitch caught it in the lower angle to hinder its returning to its former position. The abdomen was now closed. Right after the operation the respirations were 12; pulse, 88. Two hours afterward the respirations had slowed to 8 per minute, and soon afterwards to only 4 per minute. The pulse became weak and irregular—122. The following day vomiting became continuous, and considerable blood was noticeable in the vomitus. The vomitus was composed of liver and pancreas secretions.

I determined now to combine a gastro-enterostomy with gastrostomy and pass a gastrostomy-tube through the opening in the anterior wall of the stomach and across the stomach through the gastro-enterostomy opening some distance into the jejunum. By the use of a rather large Murphy button a rubber catheter could be

passed through its opening into the lower arm of the jejunal loop, and since this catheter would nearly, but not tightly, fill the lumen of the button the tendency would be to retain the infused food in the intestine, though some drainage was possible along the tube and through the side holes of the button for the gastric and other regurgitated secretions. In accordance with these purposes the wound was reopened. The omentum again seemed to be down into the pelvis. It was raised up, and with as little eventration as possible the first part of the jejunum was secured and an antero-inferior gastro-enterostomy was done, the smaller half of the button being inserted into the stomach. Then a good distance from the gastro-enterostomy opening a tiny opening was made into the stomach wall, just enough to make it possible to force a soft catheter through, which was, however, rigid enough, so as not to double up too easily, and thus not to have its jejunal end eventually expelled back into the stomach by the collection of a greater quantity of food in the gut. This catheter was brought out through the gastric half of the button, then inserted into the lower half, and now the button was closed. The catheter was pushed in far enough to reach about 10 or 12 cm. beyond the button into the lower loop of the jejunum.* The button seemed a little large for the gut, and therefore, in order to support the line of union, a continuous silk Lembert suture was applied over the two anterior thirds of the circumference. Two silk pucker-strings inverted the stomach walls around the catheter, the inner one catching the catheter, the outer one being fixed to the fascia of the abdominal walls, which were now closed by figure-of-8 silkworm sutures.

The operation, including the closure of the wound, took thirty-five minutes. Before taking the patient from the operating-table twelve ounces of thick malted milk were administered through the tube into the jejunum and coffee and water per rectum. The pulse, shortly before the operation, was 132, the respirations 8 per minute. After the operation the pulse was 144; respirations, 5. Half an hour later the respirations were 4 per minute; then at 10:30 P. M. only 3, and at 10:45 only 2, respirations were observed per minute. Some blood was then vomited. Every hour three ounces, alternately, of strong malted milk or beef tea were given in the jejunum. In the night the tem-

perature went up to 101.4° by axilla, but after a very heavy sleep it was evident by morning that oil had been added to the lamp. The next day, April 25th, at 8 A. M., the pulse was 110 and the respirations 7 per minute. Now a new trouble came. At 11 A. M. the patient began to complain of very severe pain and vomited a large basinful of dark green fluid with apparently a very small quantity of the injected food. An hour later there again occurred this copious vomiting and very frequently during the afternoon, so that the feeding had to be stopped. The gall-bladder drainage yielded only very little bile. Late in the evening, after severe pain in the stomach, a large amount of dark green fluid was again vomited. The pulse, however, had come down to 93; the respirations were 13; and the night was good.

The next morning (April 26th) we tried to counteract the vomiting in assisting drainage by having the patient repeatedly sit up for ten minutes with a back-rest, though she was extremely weak. The copious vomiting, however, of greenish fluid kept up. No particles of food were seen in it. It was evident that we had the picture of acute dilatation of the stomach with that well-known abundant secretion into the stomach; but this picture was previously modified by the prompt vomiting and now by our drainage. Could the cause for such cases lie simply in an obstruction of the lower duodenum, the copious fluids being perhaps only moderately increased or even normal quantities of stomach, duodenum, pancreas, and liver secretions combined? The quantity of these four secretions has been found to be much larger than we formerly thought, and to be nearly equal in twenty-four hours to the individual's volume of blood and lymph together. Stomach-washing relieved the patient greatly for some time. The jejunal feeding is kept up, but hardly any pressure allowed. The fluid in the irrigator was kept at a level with the pit of the stomach. For a larger feeding one hour was often required, and no food was administered, if after removing the clamp on the feeding tube there was escape of any amount of the formerly ingested food. There was, however, no discharge of malted milk from the tube one hour after giving four ounces, while one-half an hour after the feeding a little appeared on removing the clamp. Cream was added to the malted milk. Either the stomach had very poor contracting power or stomach-contents, slime, etc., had blocked the small amount of space left in the Murphy button, or both factors combined to the effect that apparently all the secretions in the stomach must be washed out or vomited. Cas-

*If, instead of the button, I had used the suture method, the tube would have been better pushed even further down into the jejunum, and a very thin and soft tube would have been preferable.

cara with the feeding caused several defecations. The feeding through the catheter became severely distressing; the nausea, vomiting, and weakness again produced a very miserable condition.

I then inserted, on the third day after the second operation, a stomach-tube and removed about ten ounces of bile-stained fluid. Considering this to be digestive secretions it was now mixed with seven ounces of thick malted milk, three eggs, and some salt, and was infused into the jejunum. The same was done in the evening of the same day and twice the next day. This seemed to produce a very favorable change. Four and a half days after the second operation the patient was given buttermilk in sips by mouth and retained it all. It may be that the button became loosened by this time. The feeding, mixed with the gastric secretions, was kept up twice daily. The tube leading to the gall-bladder was removed on May 4th. The patient had by this time begun to complain so much that feeding in any way became almost impossible and had to be greatly reduced. On May 6th the pulse ran high, up to 160 and 168, with a temperature of 101°. The patient was very much depressed and wanted to be left alone to die. We feared that the comparatively large button made part of the trouble, large quantities of blood having appeared in the stools, but it seemed necessary that the feeding be pushed. One quart of cream and milk and three heaping tablespoonfuls of sugar were then given by the tube, and at the same time the stomach was washed and a moderate regurgitated portion of the feeding thus removed. This was repeated every eight hours.

The next day the pulse was very weak—130 to 150. The feeding was kept up. When food was vomited it was given again by the tube. On May 10th she began again to eat a little. On May 11th she was taken out into a chair. On May 12th she ate so nicely that feeding through the tube was omitted. From then on the patient was up every day and began to feel better and gradually stronger. The tube was removed from the stomach three weeks after the operation, but the button did not pass until sixty days after the operation. This I think was due to its large size. The first weighing, eight weeks after the operation, gave 88 pounds, while the patient had weighed 156 pounds before getting sick.

Now, one and a half years after the operation, the patient is looking well, weighs 121½

pounds, has no complaints except that, when she is greatly overworked, she vomits a few times. She is again in charge of one of the hospital floors.

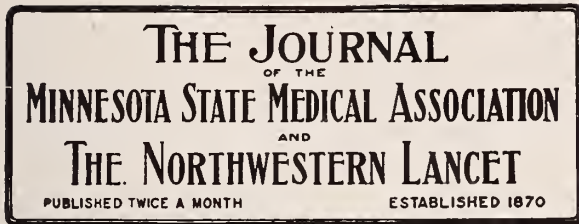
Contrary to Laffer's views (Annals of Surgery, March and April, 1908), arteriomesenteric ileus has to be considered as an established pathological condition. Two elaborate publications in support of this have appeared this year: Nakahara's, from Enderlen's clinic, in the *Beiträge zur klinischen Chirurgie*, Bd. lxiv, Heft I, and lately v. Haberer's from v. Eiselsberg's clinic, in the *Archiv für klinische Chirurgie*, Bd. lxxxix, Heft 3. Haberer in reviewing the literature says that no case where all other means were fruitless and where therefore surgery had to be resorted to, had as yet survived.

It may be that this combination of gastrotomy with gastro-enterostomy and transgastric jejunal feeding will be of use in some of these and similar conditions.

After the gastro-enterostomy is done the additional gastrotomy with the insertion of its tube into the jejunum is of course a very simple affair and adds certainly much less to the operative trauma than the somewhat bulky title of the paper would lead one to infer.

THE PRESENT STATUS OF THE TONSIL OPERATION: A COLLECTIVE INVESTIGATION

George L. Richards, of Fall River, Mass., gives a study of the modern position as to the removal of tonsils. Further study is needed of the physiological function of the tonsil in order to justify its frequent removal. When diseased the tonsil is a port of entry for infections, especially rheumatism and tuberculosis. The submerged tonsil is as likely to give trouble as the large, prominent one. Local measures for tonsillar disease have their place in therapeutics. Indication for removal consists in any condition in which the tonsil is exerting a bad influence on the entire organism which cannot be prevented by general treatment. Ether is the safest anesthetic. The horizontal posture is best for operation. The entire tonsil should be removed, instead of removal of only a part of the organ. The part left behind goes on receiving infections. The removal of the tonsil generally improves the voice.—Medical Record.



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SEPTEMBER 1, 1910

ICE-CREAM CONES

The tremendous business which employs many men and large factories in the making of an innocent cone and its contents is likely to receive a severe shock. In the larger cities the departments of health are employing every effort to prevent what may be a public peril. New York alone confiscated over four million cones in one day on the ground that the pure-food laws were flagrantly violated. Chicago has stirred the manufacturer up to the point of indignation by condemning the sale of cones. The filling of these cones by impure compositions is likely to reduce their sale measurably. Dr. Wiley of Washington has published the formula of this alleged ice-cream and declares it is made of cheap gelatin, dextrin, or glucose flour, and bad milk, flavored and colored with analine dyes. A gallon of this stuff can be made for a few cents and sells for a few dollars. The cones themselves are made in the cheapest possible manner, of cheap and unreliable grits, and handled without precautions of any sort that suggest hygienic surroundings. The sale of this and other cheap and dirty, as well as unhealthy, foods is difficult to control unless the people are educated as to their preparation.

The mode of handling all bakery products,—breads, pies, and cakes,—is disgusting. The man who cares for the delivery horse, drives the same, and handles the baked goods in the same

unclean manner that characterizes the country-hotel waitress who makes a part of her toilet in the kitchen or dining-room. Uncleanliness, untidiness, and carelessness are so common that the manufacturer ceases to care how his products reach the consumer. The wrapping of bread-stuffs, candies, and other salable articles is left to girls who live in unsanitary homes and who have no conception of personal hygiene. Why cannot the health inspectors increase their labors and insist upon clean foods from clean hands for public consumption?

We may have clean milk in time, but it will be a long trip to clean foods of other kinds.

FINANCING THE STATE BOARD OF HEALTH

Physicians are again urged to assist in promoting the activities of the State Board of Health. In Minnesota many problems have come up which have been met in spite of the smallness of the Board's resources. Very few physicians, and fewer laymen, realize what it means to control the forces against health. The pollution of streams is likely to overwhelm us some day unless we study the problem carefully and meet it boldly. The diminished rainfall of this year and the resultant inability of streams to carry off the sewage of cities has already caused much illness and may cause a great deal more. This year, then, is the time to prepare for emergencies, and to that end the influence of physicians throughout the state is emphatically solicited.

Last year the legislature gave the State Board of Health about fifty-five thousand dollars (\$55,000). Minneapolis alone spends \$180,000, Chicago \$600,000, and Boston a much larger amount. This coming year, ending July 31, there will be a deficit in some of the divisions of the State Board's finances. From \$75,000 to \$100,000 is really needed to carry on the work. Who will see that it is provided? Can the Board depend upon the health authorities all over the state?

If each county health officer would inform his senator and representative of the needs of the Board it would make the work of a special legislative committee effective.

In all probability, a committee representing the State Medical Association, the State Board of Health, and other state organizations, will combine their educational efforts to secure legislative aid. Any missionary work done by physicians in the state will be appreciated.

INSANITY AND PELVIC DISORDERS

We believe we are justified in saying that it is long since any practitioner of standing would advise pregnancy to cure tuberculosis, and it is astounding that any medical man can still be found so fatuous as to advise pregnancy to cure insanity on the part of the prospective mother; yet such a circumstance has three times recently come under the observation of the writer. Considering the very questionable future of the offspring of an insane mother, it would seem that the child's interest alone would forbid such advice, even if it were advantageous to the mother, but evidently it does not.

Why it should be assumed that the seat of a woman's mental stability is in her pelvic region it is difficult to say, but that the feeling exists is widely in evidence. Disease of the pelvic organs is constantly accepted as a cause, or even *the* cause, of women's mental breakdown, though the admission-statistics of hospitals show that men suffer the same mental disorders in about the same proportion at similar ages, and that they run much the same course as regards recovery. It must either be admitted, then, that there is something in the sexual life of men which is analogous to the periods of onset of menstruation, of child-bearing, and of the menopause in women, or else undue importance is attached to the sexual life of women in producing mental troubles. Probably the latter is correct. At least the testimony of those most familiar with the subject, is that menstrual disorder and pelvic disease have little to do with the onset of insanity, and can be looked upon as its cause only in conjunction with other things—notably an unstable heredity, in which case the latter is by all means the more powerful factor. And even if it were admitted that pelvic disorders are important in the production of insanity, it would still be true that an operation done for such conditions, when the insanity has existed for more than a year, or where the patient was originally of a defective nervous organization, would be practically without effect on the insanity, and it is the opinion of alienists that an operation done under such circumstances, to bring on an artificial menopause, hastens the onset of dementia, or increases it, if already present. If pelvic disease exists in an insane or neurotic woman and there is no evidence that the general health, independent of the insanity, has been affected by the pelvic disease it does not seem reasonable that an operation under such circumstances will materially benefit the mental condition. In other

words, an operation should not be done in a nervous woman for a pelvic condition which would not call for operation if the patient were sane.

The climacteric, in particular, is approached by many women with grave fear of imminent insanity, due, to a considerable degree, to the teaching of medical men. It is the duty of our profession to remove these unfounded fears that worry and distress women as they approach this period of their lives, as it is likewise our duty to hesitate long about the performance of all those operations which bring about the menopause artificially and which, if performed for no other purpose than to cure a neurosis, have rarely any justification in sound reasoning, or in the clinical experience of those who know.

CORRESPONDENCE

"OUR HUMILIATION"

Owatonna, Aug. 23, 1910.

TO THE EDITOR:

Your editorial in the last issue of *THE JOURNAL-LANCET* entitled "Our Humiliation," leads me to address the profession upon a subject that has long been prominent in my mind, and would have been dealt with through the columns of your paper before were it not that we have a committee on medical legislation to whom this function should properly belong.

Minnesota has for years had the reputation of being one of the foremost states in the Union in the way of medical legislation; and yet we have repeatedly been defeated in our efforts to obtain the passage of measures that are of the greatest importance, not only to the profession, but to the entire commonwealth.

It is not for me to pass upon the cause of this failure at this time. However, were I to venture a prediction, it would be that one prime cause has been a lack of united action on the part of the profession. The advertisement reproduced in *THE JOURNAL-LANCET* and referred to editorially is more than a humiliation of the profession. It is a disgrace to the entire medical fraternity, and to the State of Minnesota; nor is this the only evil that menaces the profession in this state.

There are many other matters of as great importance that should be acted upon and corrected. In a brief communication of this character it would be impossible to enumerate all of the evils, or to prescribe the remedy more than to say

that the entire matter should be taken up by the House of Delegates at the approaching meeting of the State Medical Association and thoroughly canvassed. Then it should be presented to the Association in general session and such measures inaugurated as would at least make a commencement in the correction of the evils. This commencement, once having been made, should be systematically, tactfully and persistently followed up. By only such means will the profession accomplish the desired result.

THEO. L. HATCH, M. D.

Ivanhoe, Minn., Aug. 22, 1910.

TO THE EDITOR:

I agree with you in your comments on pages 344-348 of *THE JOURNAL*, regarding the humiliation of the medical profession of our state by such quacks, and their advertisements, as the Drs. Rea Bros. & Co., under the cloak and garb of "Good Samaritans." The supreme function of our State Board of Medical Examiners is to protect both the laity and the profession against imposters and their impositions in the art of healing. But the Board has never been able to exercise this function because the power was never granted to it by the state legislature, for the reason that there has never been any concerted action on the part of the medical profession to exert sufficient pressure on the individual legislators to incite them to act.

Now, I believe that *THE JOURNAL*, as the organ of the profession in this state, should frame an appropriate petition stating therein just what power should be granted to the Board, and as many copies of this petition be made as there are senators and representatives in the state. A responsible physician should then be selected in each legislative district and to him as many copies of the petition should be sent as there are senators and representatives in his district. This physician would get the petition signed by all the physicians in his district and send a copy so signed to each senator and representative of that district. In this way each senator and representative in the state would be petitioned individually and would thereby be made to feel the responsibility of the passage of a law as demanded.

G. L. JACQUOT, M. D.

Minneapolis, Aug. 24, 1910.

TO THE EDITOR:

Evidently the Red Cross or Blue Nose physicians, or whatever they call themselves, do not

confine their bombastic and flamboyant style to the northern part of the state. The enclosed is from the Winnebago Enterprise of August 18th.

JOHN ELDON HYNES, M. D.

FLIES AND DYSENTERY

Minnesota, August 25, 1910.

TO THE EDITOR:

Your readers may be interested in the following letter which the Department has sent out to a number of towns where dysentery and typhoid have been prevalent, and where our investigations have shown that flies were a controlling factor.

There would seem to be in Minnesota at the present time an epidemic of mild dysentery or severe diarrhea, affecting adults as well as children and not accounted for by any of the ordinary sources of such troubles, such as milk-infection, water-infection, etc. The careful investigation at various points has shown that for the towns concerned flies alone furnished a reasonable explanation of the outbreak.

This outbreak is not confined to the Range, where it is extremely prevalent, but is found in a number of other towns in the state, and the letter was sent to a number of health officers of the towns concerned, but undoubtedly is much more widely applicable than to these towns alone.

H. W. HILL,

Director, Division of Epidemiology.

Minneapolis, Minn., August 15, 1910.

Dear Doctor:—A recent investigation concerning the dysentery or diarrhea, which is prevalent at many points on the Range and also at points not on the Range, succeeded in eliminating as a cause of the outbreak any general infection of water or milk. The outbreaks were too extensive for contact, and we believe that food was responsible only as it became infected from various sources. The only source of such food-infection which is widespread enough to account for the outbreak is the carriage of infection by flies from outdoor closets, garbage, manure, etc., to food in general, perhaps to sidewalk displays of fruit-stores, etc., and still more probably to food in kitchens during preparation, and in dining-rooms after the food is prepared.

Conditions in all the towns seen were such that the general filth so prevalent on streets and in alleyways, including deposits of manure, outdoor closets, and garbage-pails, would certainly account for the prevalence of infective agents.

I call your attention to this because a great many enquiries are directed to us from time to time concerning this widespread outbreak, and I believe it is your duty as health officer to make these findings prominent in your community, perhaps by sending a note on the subject to the local newspapers, per-

haps by placards in public places, possibly through the churches or other public meetings, and through the schools when the schools open. Undoubtedly, the flies will continue for a month or six weeks after the opening of the schools.

This form of outbreak, while a sufficiently serious matter, would not deserve so much attention were it not that the distribution of the infection by flies does not always stop short at dysentery, but may result in a considerable amount of typhoid fever, as it has already done in some communities.

I would point out, however, that the typhoid fever probably is usually connected with infection carried from outdoor closets, and not with infection from garbage, manure, or contaminated fruit.

Very sincerely yours,

(Signed) H. W. HILL,

Director, Division of Epidemiology.

MISCELLANY

MEMORIALS OF DR. JAMES BROWN MCGAUGHEY, OF WINONA, AND DR.

JAMES P. DAVIS, OF HAMMOND, MINN.*

Dr. James Brown McGaughey

By WILLIAM J. MAYO, M. D.

ROCHESTER, MINN.

In the death of Dr. James Brown McGaughey, one of this society's founders and foremost supporters, the Association has suffered an irreparable loss. A kind friend and counselor whom we all loved has passed away, and words of mine can add nothing to the reputation which he himself established during life.

When I began the practice of medicine, Dr. McGaughey was one of the first men with whom I became acquainted. My father had told me of his rare ability, of his attainments, and of his unimpeachable personal integrity. I found that he had not only all of these qualities, but many others of rare worth. He was a friend and an inspiration to all the young men of his acquaintance. Modest and retiring though he was by disposition, he made every effort to aid in the advancement of others and often at his own expense. Although there were many years' difference in our ages, we became warm friends, and this friendship continued over a period of twenty-five years, to the day of his death. We made many trips together to the various hospitals and clinics, and to attend medical societies.

Dr. McGaughey's scientific work was charac-

teristically progressive, and without relinquishing the good in the old, he was ever ready to learn of and try new things. His judgment was fine: he appeared always to select the best almost as though by instinct.

His relations with his patients were always that of the wise friend and physician, the one to whom they turned for counsel and sympathy in matters professional and otherwise. To the poor he was most generous, giving largely of his time and his means, with the result that, after a busy life in the practice of his profession, he had amassed but a modest competence for his own, riches seemingly having no place in his desires.

Outside of his family his interest in his profession was almost his only interest, and it was maintained up to the day of his death, which came one evening after his usual hard day's work. Death came suddenly, as he would have wished, not with the thought of avoiding pain and suffering for himself, but to save his family and friends the long, anxious twilight hours of life.

Of the pioneers of early medicine who maintained so high a professional conduct in the early history of the state, but few are left. As we look back upon the work they have accomplished we find that it is not only well done but lasting. The impress and character of the work performed by Dr. McGaughey will be felt long after his time. He stood for righteousness in medicine, for truth and sincerity of purpose, and he is an example of virtue, fidelity, and integrity to the younger generation. When the final summing up comes to us all, as come it must, can we hope for any greater happiness than the consciousness of work well done, which was so justly the consolation of our old friend?

Dr. James Brown McGaughey was born near Gettysburg, Pennsylvania, December 1, 1842. He died in Winona, Minnesota, September 27, 1908. He served in the Civil War. He graduated from the medical department of the University of Michigan in 1867, and came immediately to Winona to engage in the practice of medicine, which he continued to the day of his death. No physician in the state was more widely or more favorably known. He was associated as follows with the various medical organizations: Secretary of the Winona County Medical Society for thirty-seven years; member of the Minnesota State Medical Association, and its president in 1884; member of the Minnesota Academy of Medicine, and member and ex-president of the Southern Minnesota Medical Association. For six years he was a member of the State Board of Medical

*Read before the Southern Minnesota Medical Society, August 4, 1910.

Examiners of the State of Minnesota, and at the time of his death he was a member of the State Board of Health.

Dr. James P. Davis

By W. F. WILSON, M. D.

LAKE CITY, MINN.

One of our esteemed medical brethren, in the person of Dr. J. P. Davis, was taken from us on the 29th of last August, having succumbed to a complication of diseases and died in the Soldiers' Home in Minneapolis. Interment was made in the Cooks Valley Cemetery, near Kellogg, under the auspices of the Hancock Post, G. A. R., of which he was a charter member.

Dr. Davis came to America from England in early boyhood. He served in the Civil War, and, in 1875, was graduated from the Missouri Medical College. In the same year he came to Minnesota and settled in Kellogg where he practiced for a number of years. At that time he was considered one of the best diagnosticians in this section of the country. He was one of the early members of the Wabasha County Medical Society, joining in 1875; at the time of his death he was a member in good standing of that society and also of the State Medical Association.

While residing at Kellogg his first wife died, and to mitigate his sorrow he returned to England. While there he wrote a monograph on "Calculus." This book, although a work of some merit, was not a success, financially.

On returning from England he settled in Millville and later in Hammond, where he made many lasting friendships.

Dr. Davis was a man of bright intellect and good professional qualifications, and his foibles and eccentricities only served to emphasize his individuality, and to perpetuate his memory.

Dr. Davis, practicing alone in a small village, naturally had a hunger for the companionship of medical men. He invariably attended medical meetings when he could, took part in the discussions, and visited assiduously during intermissions in the program.

One thing I remember particularly in my own acquaintance with him, was the eagerness with which he welcomed another physician, or physicians, when they stopped in the village where he was located; and if they were stranded there through some mischance in traveling, the better pleased seemed Dr. Davis. The event gave him a chance to demonstrate his hospitality and also to get in a good visit with his medical brethren.

NEWS ITEMS

Dr. C. J. Bloom has moved from Lake Park to Mora.

Dr. H. B. Hixson, of Cambridge, died last month of poliomyelitis.

Dr. H. H. Sommers, formerly of Duluth, has located in Portland, Oregon.

Dr. W. J. Kennedy has moved from Grafton, N. D., to Osnabrock, in the same state.

Dr. Stephen Fisher, of Dickinson, N. D., has accepted a position in a sanitarium at Milwaukee, Wis.

Dr. C. M. Adkins, of Ogema, has decided to locate at Clearbrook, on the new line of the Soo railway.

Dr. S. M. Johns, of Velva, has opened a private hospital with accommodations for eight or ten patients.

Dr. G. A. Newman, of New London, has moved to Stillwater, where he will have charge of the prison hospital.

The South Dakota State Medical Association holds its annual meeting at Hot Springs on September 27th to the 29th.

Newspaper reports from Seattle, Wash., say that over fifty deaths have taken place in that city from infantile paralysis.

Dr. Richard T. Glyer, State University, '09, now located at Marble, was married last month to Miss Ione Dell Stock, of Coleraine.

Dr. W. A. Jones, Editor of THE JOURNAL-LANCET, will return this week from Europe, where he went for rest and recreation.

Dr. Claude Lomax, of Portland, Oregon, will give up a lucrative practice to devote his time to the study of leprosy in the Cullion island.

Dr. J. W. Chamberlin, of St. Paul, was elected junior warden of the supreme lodge of Knights Templars at Chicago last month. The honor is a high one.

Dr. John A. Lyng, of Alexandria, has gone to Europe for special work in surgery. He will spend three months abroad, mostly in Vienna, Paris, and Berlin.

Dr. Geo. Douglas Head, of Minneapolis, read a paper before the joint meeting of the Aberdeen

Dr. Francis Devaux, who formerly practiced at Valley City, N. D., and was president of the N. D. State Board of Health in 1883, died last month in Chicago.

and Watertown District Medical Societies of South Dakota, last month.

The Aberdeen (S. D.) physicians have adopted the following fee-bill: Day calls, \$2.00, instead of \$1.50; night calls, \$3.00; country calls, \$1.00 a mile, instead of 50 cts.

Dr. Edward W. Buckley, of St. Paul, has received the honor of election as delegate to the eucharistic congress of the Catholic church to be held in Montreal on Sept. 11th.

Dr. Robert Earl, of St. Paul, has resumed practice after his automobile accident of July 21. A trip over the Great Lakes and through the East completed his convalescence.

Dr. Roy M. Wheeler, of Hot Springs, S. D., was married last month to Miss Eleanor Holtz, also of Hot Springs. Both Dr. Wheeler and his wife are graduates of the University of Minnesota.

The Samaritan Hospital of Sioux Falls, S. D., has been completed, and is now in successful operation. It is owned and conducted by Drs. R. G. Stevens and N. J. Nessa, formerly of Minnesota.

A handsome three-story brick building has been erected in connection with the Winona General Hospital, to be used as a home for the hospital nurses. It will be ready for occupancy in a week or two.

Duluth will have two medical inspectors and two nurses at work in the public schools this year. Medical inspection has paid, in dollars and cents, in Duluth by reducing the number of cases of contagious diseases and in other self-apparent ways.

The twelfth annual conference of the American Hospital Association will be held in St. Louis, Mo., on the 20th to the 23d of this month. Dr. R. O. Beard, of Minneapolis, will read a paper at the meeting on "The Education of the Nurse in America."

Dr. J. C. Boehm, of St. Cloud, has at last won his suit against that city for services in school inspection. The claim was for over \$400 and will be paid in full. Villages and cities seem to be the worst offenders in attempts to repudiate physicians' bills.

The Grand Forks District Medical Society of North Dakota met at Grand Forks, N. D., on August 10th. The meeting was given over to a symposium on appendicitis. Dr. S. S. Hesselgrave, of St. Paul, read a paper, and Dr. W. O. Todd, of Winnipeg, took part in the discussion.

At the August meeting of the Sixth District Medical Society of North Dakota, held at Bismarck, a resolution was passed favoring the establishment of a state public health laboratory at Bismarck, as the laboratory at the State University at Grand Forks is too inaccessible to many parts of the state.

The nurses of Duluth have issued a directory. It contains the names of 140 nurses, 90 "regulars" or graduates, and 50 "practical" nurses, who are not graduates. The graduate nurses receive the following weekly wages: \$25 for ordinary cases; \$30 for hospital cases; and \$25 for cases with a contagious disease. The practical nurses receive somewhat less.

The U. S. Civil Service Commission will hold examinations throughout the country on Oct. 5th to obtain a medical interne for the Government Hospital for the Insane at Washington, D. C. The examinations in Minnesota will be held at Crookston, Duluth, Fergus Falls, Mankato, and St. Paul.

An accommodating high-school principal of Chicago, has been selling certificates to students of medicine and law, who attend professional schools requiring such certificates for admittance to their courses. It is now said that several hundred practicing physicians may have their licenses based upon such purchased certificates cancelled. A better way would be to cancel all such medical schools.

The State Board of Health of Iowa held a special meeting on August 17th, to consider the subject of infantile paralysis. Over one hundred Iowa physicians were present, and were addressed by Dr. W. H. Frost, of the U. S. Marine Hospital Service, who was sent to Iowa by the government to assist in the study of the disease. Dr. Frost urged perfect sanitation and isolation. He feared that the worst was to come, as the latter part of August and the month of September are the worst months for the disease.

The National League for Medical Freedom, whose object is "to defeat any measures tending toward medical slavery" has appointed a com-

mittee to look after adverse legislation in Minnesota. The following gentlemen constitute that committee Prof. John N. Greer, principal of the Minneapolis Central High School; Charles Hughh, president of the National Association of Retail Druggists; Dr. William E. Leonard, formerly a professor in the Homeopathic medical department of the State University; Dean W. S. Pattee, of the law school of the University and E. C. Pickle, president of the American Osteopathic Association.

BOOKS AND INSTRUMENTS FOR SALE

Surgical instruments, operating-table, and medical library for sale. All in good condition. Address D. M., care of this office.

FOR SALE

An Allison Specialist's Cabinet, Style 69D, with swinging spray-heater (in use only six weeks). Also a Betz six-bottle, double-valve nebulizer and pump. Enquire of or write Mrs. Mary F. Giltinan, 709 Delaware St. S. E., Minneapolis.

POSITION WANTED UNTIL DECEMBER

An interne at the Northwestern Hospital, Minneapolis, desires position as assistant or supply until Dec. 1st or 10th. Best of references. Address W. M., care of this office.

SUPPLY WANTED

A locum tenens is wanted in a small village on Lake St. Croix for twenty-five days beginning Sept. 20th. For particulars address Dr. G. H. Burdend, Afton, Minn.

PRACTICE FOR SALE

A \$3,500 practice in one of the best cities in southern Minnesota for \$1,500 cash. No bad debts; good roads, good schools, and a good hospital. A good man can easily make \$5,000 a year. Will remain for a while as partner if necessary. This is a fine chance. I am going to the Coast. Address C. O., care of this office.

PRACTICE FOR SALE

I will sell my practice of \$3,000 or better in Western Minnesota to the man who will buy my office fixtures and outfit consisting of a static machine, x-ray outfit, electric motor and dynamo, nose and throat outfit, chair, etc., amounting to \$600. Field a fine one with no opposition. Address M. E., care of this office.

FOR SALE

X-ray machine and base, air-pump, operating-table, rockers, chairs, tables, book-case, mirrors, office furniture and fixtures. This lot of doctor's office equipment will be sold very cheap. Address C. M., care of this office.

PRACTICE FOR SALE

An unopposed practice in Southwestern Minnesota worth from \$2,500 to \$3,000 a year can be had for \$400. Do not write unless you want the place at the price. Address D. E., care of this office.

DEATHS REPORTED TO THE STATE BOARD OF HEALTH
OF MINNESOTA FOR THE MONTH OF JUNE, 1910

REPORTED FROM STATE INSTITUTIONS FOR MONTH OF JUNE, 1910

STATE INSTITUTIONS.		Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Acute Anterior Polio Myelitis	Typhoid Fever	Diarrheal Diseases of Children	Cancer	Puerperal Septicemia
Fergus Falls, Hospital for Insane	13	2		1												
Rochester, Hospital for Insane	4	3		1												
St. Peter, Hospital for Insane	7	3											1			
Anoka, Asylum																
Hastings, Asylum																
Faribault, School for Deaf																
Faribault, School of Blind																
Faribault, School for Feeble Minded	8	5		1												
Owatonna, School for Dependents																
Stillwater, State Prison	2	2														
St. Cloud, State Reformatory																
Red Wing, State Training School																
Minneapolis, Soldiers' Home	3															
Totals	40	14		3									1			

REPORTED FROM 72 CITIES HAVING A POPULATION OF 1,000 OR UPWARD
FOR THE MONTH OF JUNE, 1910

CITIES.	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Acute Anterior Polio Myelitis	Typhoid Fever	Diarrheal Diseases of Children	Cancer	Puerperal Septicemia
Albert Lea	4,500	5,657	8			2		1							1		
Anoka	3,769	4,053	4	1											1		
Austin	5,474	6,489	5												1		
Barnesville	1,326	1,566	0													1	
Bemidji	2,183	3,800	8	2				1	1						1		1
Blue Earth	2,900	2,364	1														
Brainerd	7,524	8,111	17	1				1									
Chaska	2,165	2,085	0							1					1	1	
Chatfield	1,426	1,300	2														
Cloquet	3,074	6,117	5														
Crookston	5,359	6,794	4			1									1	1	
Detroit	2,060	2,149	4			1											
Duluth	52,968	64,942	69	8	1	5			4			2		1	5	1	1
East Grand Forks	2,077	2,489	6	1											1		
Ely	3,712	4,045	4			2											
Eveleth	2,752	5,332	3		1												
Faribault	7,868	8,279	3	2													
Fairmont	3,440	2,955	2														
Fergus Falls	6,072	6,692	2					1								1	
Granite Falls	1,214	1,340	1														
Hastings	3,811	3,810	3										2				
Hutchinson	2,495	2,489	1				1										
Jordan	1,270	1,311	1														
Lake City	2,744	2,877	5		1												
Litchfield	2,280	2,415	1														
Little Falls	5,774	5,856	4	1				1									
Luverne	2,223	2,272	1			1											
Le Sueur	1,937	1,842	2														
Madison	1,336	1,604	1														
Mankato	10,559	10,996	14	2		2										3	
Marshall	2,088	2,243	1	1													
Melrose	1,768	2,151	3														
Minneapolis	202,718	261,974	300	27	4	27	1	16	5	9			1	2	16	15	4
Montgomery	979	1,281	1														
Montevideo	2,146	2,595	4													2	
Moorhead	3,730	4,794	8			1				1				1			
Morris	1,934	2,003	0														
New Prague	1,228	1,419	0														
New Ulm	5,403	5,720	0														
Northfield	3,210	3,438	5														
Ortonville	1,247	1,612	2	1										1			
Owatonna	5,561	5,651	5									1				1	
Pipestone	2,536	2,885	3	1													
Red Lake Falls	1,885	1,797	2	1					1								
Red Wing	7,525	8,149	9	3													
Redwood Falls	1,661	1,806	2														
Renville	1,075	1,229	1														
Rochester	6,843	7,233	29	2	2	2		1								6	
Rushford	1,100	1,133	1														
St. Charles	1,304	1,238	1	1													
St. Cloud	8,663	9,422	9	1				1									
St. James	2,607	2,320	1														
St. Paul	163,632	197,323	225	18	7	23	1	12	3	2		1		5	19	15	3
St. Peter	4,302	4,514	1														
Sauk Centre	2,220	2,463	3													1	
Shakopee	2,046	2,069	0														
Sleepy Eye	2,046	2,312	1	1													
South St. Paul	2,322	3,458	6			1										1	
Stillwater	12,318	12,435	8			1			3							1	
Thief River Falls	1,819	3,502	3												1		
Tower	1,366	1,340	0														
Tracy	1,911	2,015	2		1												
Virginia	2,962	6,056	9	1					1						1	1	
Wabasha	2,528	2,619	6			2		2									
Warren	1,276	1,640	1		1												
Waseca	3,103	2,838	1		1										1		
Waterville	1,260	1,383	0														
West St. Paul	1,830	2,100	2					1									
Willmar	3,409	4,040	3		1												
Windom	1,944	1,884	1														
Winona	19,714	20,334	17						1	2						1	
Worthington	2,386	2,276	1													1	

*No report received. Health officer not doing his duty.

REPORTED FROM 65 VILLAGES HAVING A POPULATION OF 1,000 OR UPWARDS
FOR THE MONTH OF JUNE, 1910

VILLAGES.	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Acute Anterior Polio Myelitis	Typhoid Fever	Diarrheal Diseases of Children	Cancer	Puerperal Septicemia
Ada	1,253	1,515	0														
Adrian	1,258	1,184	0														
Aitkin	1,719	1,896	1		1												
Akeley		1,636	0														
Alexandria	2,681	3,051	4														1
Appleton	1,184	1,321	1														
Belle Plaine	1,121	1,301	0														
Benson	1,525	1,766	0														
Breckenridge	1,282	1,850	1														
Buffalo	1,040	1,124	1														
Caledonia	1,175	1,405	1														
Canby	1,100	1,505	1														
Cannon Falls	1,239	1,460	1														
Cass Lake	546	1,062	1														
Chisholm		4,231	8	1		2		1									
Dawson	962	1,056	0														
Delano	967	1,023	0														
Fosston	864	1,000	0														
Frazee	1,000	1,146	2					1									
Glencoe	1,780	1,805	1														
Glenwood	1,116	1,718	0														
Graceville	856	1,032	1														
Grand Rapids	1,428	2,055	0														
Hallock	805	1,014	0														
Hibbing	2,481	6,566	13	1		2										6	
Jackson	1,756	1,776	1														
Janesville	1,254	1,205	0														
Kasson	1,112	1,049	0														
Kenyon	1,202	1,252	1		1												
Lake Crystal	1,215	1,231	1			1											
Lanesboro	1,102	1,041	1														
Long Prairie	1,385	1,256	0														
Madelia	1,272	1,290	0														
Milaca	1,204	1,319	0														
Mountain Lake	959	1,063	2														1
North Mankato	939	1,129	0														
North St. Paul	1,110	1,400	2							1							
Olivia	970	1,019	1														
Osakis	917	1,056	0														
Park Rapids	1,313	1,719	1														
Pelican Rapids	1,033	1,095	1														
Perham	1,182	1,366	2														1
Pine City	993	1,092	0														
Plainview	1,038	1,140	1														
Preston	1,278	1,320	3														
Princeton	1,319	1,704	2														
Rush City	987	1,041	0														
Rushford	1,062	1,040	2														
St. Louis Park	1,325	1,491	0														
Sandstone	1,189	1,589	3														
Sauk Rapids	1,391	1,552	2	1													
Scanlon		1,122	2			1										1	
South Stillwater	1,422	1,572	0														
Springfield	1,511	1,546	0														
Spring Valley	1,770	1,573	1														
Staples	1,504	2,163	2														
Two Harbors	3,278	4,402	3			1											
Wadena	1,520	1,868	0							1					1		
Wells	2,017	1,814	1														
West Minneapolis	2,250	2,530	2	1													
Wheaton	1,132	1,346	2														
White Bear Lake	1,288	1,724	2												1		
Winnebago City	1,816	1,553	0														
Winthrop	813	1,031	0														
Zumbrota	1,119	1,129	3														
State Institutions			40	14		3				3					1		
Other parts of State	1,012,328	1,085,886	660	53	6	53	4	23	6	9	...	1	3	3	33	48	3
Total for State	1,751,395	1,979,658	1641	148	27	135	8	62	28	27	...	5	6	18	90	104	13

*No report received. Health officer not doing his duty.

160 Still births and premature births, not included in above totals.

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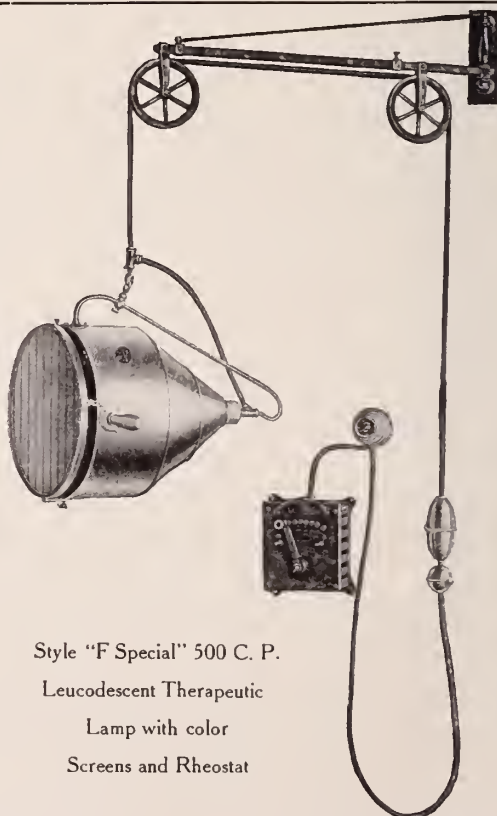
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The Minnesota State Medical Association will hold its next annual meeting in Minneapolis, Oct. 6 and 7, 1910.

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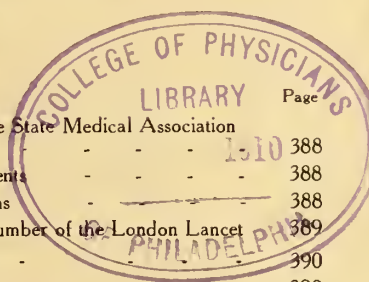
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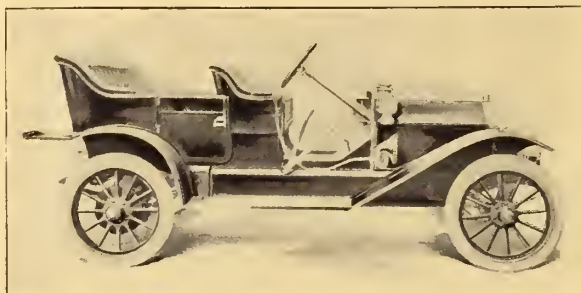
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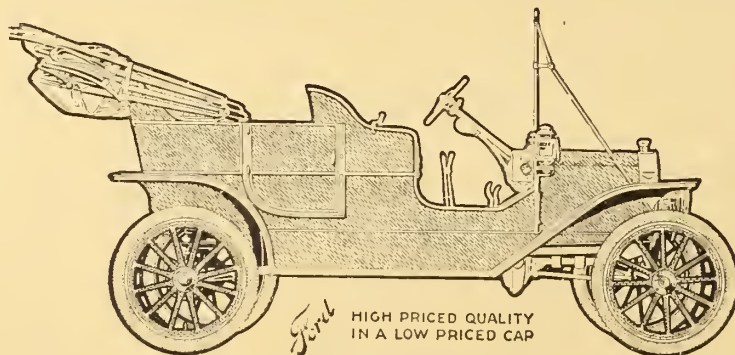
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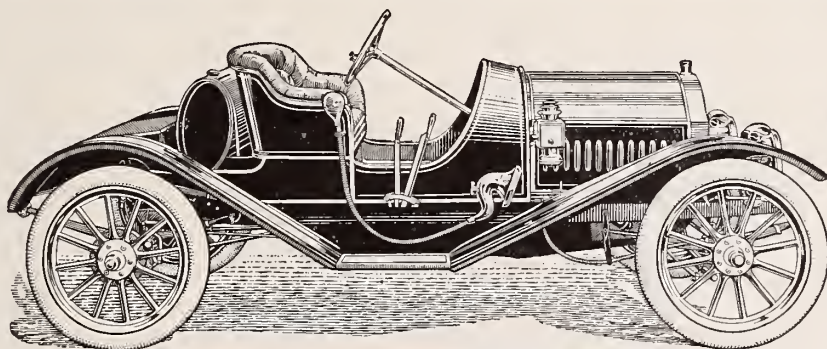
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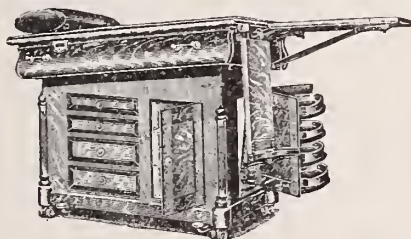
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Banking house	575,000.00	Undivided profits	296,557.10
Overdrafts	2,538.09	Circulation	1,400,000.00
Cash and due from banks.....	9,092,901.61	Bond account	165,000.00
		Deposits	25,050,836.22
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Overdrafts	124.72		
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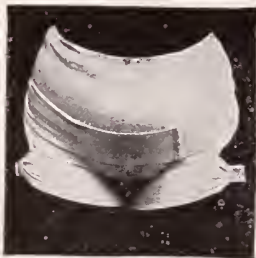
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ESTABLISHED 1870

PUBLISHED TWICE A MONTH

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No. 18

NOTES ON ITALIAN SURGERY

BY WILLIAM J. MAYO, M. D.

ROCHESTER, MINNESOTA

The science and art of surgery has no country, and while the practice of the art varies in some particulars with different nations, it may be truthfully said that the best surgery is much alike in all civilized countries. Italian surgery is no exception to this statement. The great surgeons of Italy conduct their clinics much as the clinics are conducted in France, Germany, Great Britain, and America.

In making a direct comparison between the work done in America and that which is done in foreign countries, we cannot flatter ourselves that we are leaders all along the line. Surgeons in other countries are making equal effort and equal progress. Naturally, every country has its peculiarities, and in this little narrative it is my purpose to give my version of the conditions which have contributed to the development of the Italian school of surgery.

One is very apt to think of a holiday in the light of a summer vacation, yet those of us who live in the North and take our vacation in the summer time, to travel abroad with a crowd of tourists and suffer from heat, dust, and usually from poor accommodations because of overcrowding, often have experiences little resembling a vacation. Moreover, the university clinics are not in operation during the summer semester, and one might get a very poor impression of medical conditions in foreign clinics from a visit paid at that time; but during the spring months the clinics are in full operation, and the leading surgeons are at work.

From the first of June to the first of March, at least nine months, the weather conditions in Min-

nesota bear a favorable comparison with any part of the world it has been my privilege to visit. A popular and fallacious idea, at least as far as Minnesota is concerned, is that the summer months, especially July and August, are not favorable months in which to perform operations. We have found the contrary to be true. No other months in the year furnish a lower mortality or a smaller morbidity, and, as a rule, patients do not suffer particularly from the heat. We are, however, obliged to admit that in March, April, and the first half of May, the weather is apt to be trying, particularly after one has finished a hard winter's work. The latter part of April and the month of May are usually pleasant months in Germany, Austria, France, and in the lower elevations of Switzerland, while Italy offers ideal conditions in March and April. Here one needs warm clothing in the house, but out of doors the sun is bright and warm, and the air soft and fragrant with luxuriant growth of flower and tree. The orange trees are filled with fruit.

For travelers who dread the ocean voyage it will be a comfort to know that large vessels of moderate speed are now in the New York and Mediterranean service. Generally speaking, the larger the vessel the less the sea motion, and a steamer sailing four hundred miles a day has very little vibration compared with one sailing five hundred or more miles a day.

The first stop en route is usually made at Genoa. By landing there one can reach the principal cities in Italy by short stages, and then sail

for home from Naples direct, thereby saving several days time.

Italy suffered from continental wars for twelve hundred years and was divided into petty states fighting with each other. It has now been a united Italy since the year eighteen hundred and seventy. Everywhere one sees statues of Victor Emanuel Second, representing the crown; of Garibaldi, representing the arm; and of Cavour, representing the brains which united Italy: just as William First was the crown, Moltke the arm, and Bismarck the brains which unified Germany.

Remarkable progress will be seen if one has not visited Italy for a decade. The beggars have nearly all disappeared, the people generally appear contented and industrious, and their saving, frugal habits resemble conditions among the French peasantry. It is no longer just to speak of the home of these thirty-two millions of progressive people as "Poor old Italy."

The people of northern Italy make ideal patients. They are cheerful, patient, and obedient, exhibiting many German traits, which might be expected from their previous political associations. The people of southern Italy and Sicily differ widely from those of the north, and it is from that portion of the state that America draws such a large percentage of laborers, and, unfortunately, many great rascals. The inhabitants of northern Italy are in every way a superior people. They are scientific gardeners and intensive farmers, and they would make a very desirable class of permanent emigrants.

In no way does this modern spirit of progress show more prominently than in educational matters. There are four grades of schools, beginning with the elementary and ending with the university course, all controlled by the state. The elementary course is free and compulsory and lasts five years. A pupil usually enters at five years of age, and at ten years of age the industrial life of the individual begins, four years earlier than it begins in this country. Everywhere one sees polite industrious youngsters at work, which adds greatly to the industrial success of the country. This term of education about equals the sixth grade here, but it teaches necessary things much better and is devoid of "frills." From the elementary period on, education is elective and subject to a small fee. The next step is to the gymnasium. This course lasts five years and costs about six dollars a year. Following the gymnasium course comes the lyceum or pre-university course of three years, which costs six dollars a year. This department cannot

be entered by the student until he is fourteen years of age, although the gymnasium course can be completed in four years by an exceptionally bright student. The average age at graduation is twenty-five years, the student having had nineteen years of preparation.

For those who are ambitious for position, long, slow work in the clinic and in minor positions is the road to preferment. A university graduate must give at least one year to the army, and men in all other pursuits must give at least two years. At first thought it would appear that two years from the life of every male during the strongest and most productive period would be a great economic loss, but their time is made valuable, as they are occupied in policing the country, and life and property are no longer subjected to danger and loss because of the bandits with whom Italy was infested until recent years. Of even greater importance in this training is the teaching of discipline and respect for constitutional authority, which are so necessary to the political life of a people who have recently passed from feudalism to constitutional freedom.

There are nineteen universities, and it is generally thought that this number is too large for a small country of short distances. This number may be accounted for in the history of Italy, with its many provinces acting independently and too frequently engaged in internecine warfare against neighboring cities. For example, the province of Tuscany has three universities—in Florence, Siena, and Pisa—not over fifty miles apart, but we must remember that Pisa and Siena were at one time large and important cities quite independent of each other. Poor old Pisa! A few hundred years ago the most important maritime city of Italy, now has but fifty thousand people. It lies four miles from the sea, the river Arno having built up a great flat of land between. It still has its old university, and a good medical department is associated with its hospital.

There are but three universities in Italy which are complete. These are at Turin, Rome, and Naples. The one at Naples is the largest and has over three thousand students; and that at Rome has about two thousand students. All of the professions and all of the branches, including dentistry and veterinary medicine, are taught in these three universities. The other sixteen universities in other parts of the country are more or less incomplete, that is, they are lacking in some of the professional branches, but nearly all of them have a medical department. Therefore, we find the same over-crowding of the

medical profession which we have elsewhere abroad and in America.

In comparing the Italian and the American plan of education, Italy is not the loser. In the United States, from the time the child enters the first grade, he is harnessed up to a system which ends in the university, and always with the direct intention of fitting him to be President of the United States. The mere fact that only a small percentage of these students ever reach the university or have an opportunity to become the President counts for nothing. Everything in America must be "machine-made," without any possibility of developing individuality. In our country schools, nothing is taught concerning farm life, the growth of grain, or anything in the way of agricultural pursuits; neither in the manufacturing districts is there any educational variation with the view to the future employment of the individual. In Italy the first five years in the elementary school teach the things which are necessary for all classes of citizens to know. The Italian elementary course is not top-heavy in mathematics, as it is with us, as, for example, giving to the youngsters in the fourth, fifth, and sixth grades difficult and silly problems and combinations which never occur in commercial life. Not even in the Italian gymnasium course, which lasts five years, is the university the object in view, but rather a good business training. It is not until the student enters the three-year lyceum course that he is actually headed for the university.

ITALIAN HOSPITALS

It is a little difficult to understand the Italian hospital system. If one goes abroad to criticize there are plenty of opportunities, but why go abroad for that purpose? There are plenty of opportunities at home. The Italian hospitals are mostly old and little resemble our new modern buildings, but they are clean, and well lighted and aired; the care of the patients is the best; the food is good and suitable for the people. Finally, the results are excellent and will bear favorable comparison with the average results in this country. The hospitals are controlled by the state, and the expense is borne by the municipality and the state. Nuns are in charge of the nursing in the wards, and they are assisted by untrained female helpers. In the male wards the nursing is done by male orderlies. The hospital wards are very large, usually containing from twenty-five to fifty beds. At the end of each ward there are usually four private

rooms, containing one or two beds each, for very sick patients.

The ceilings are high, the floors stone or tiled, and the windows are five or six feet from the floor. The large hospitals are usually connected with medical schools, and these medical schools are among the oldest in the world. The one at Bologna is the oldest, and it was there that anatomy was first taught by Taddeo, Mondina, and Vesalius. At Bologna today is the greatest orthopedic clinic in Italy, if not in Europe. In the old University of Padua, Professor Bassini is to be found, whose contributions to the science and art of surgery are so well known. Padua is about fifty miles from Bologna and an equal distance from Venice. Pavia, half an hour's ride from Milan, contains one of the oldest universities, the surgical clinics of which have been made known through the work of the late Professor Bottina and his contributions to literature on the subject of surgery of the prostate. His successor in the University, Professor Golgi, is known to fame through his studies of the nervous system.

GENOA

Genoa has two large hospitals, one old one and a very beautiful new one named for its founder, "The Duchess Galliers." The hospital is endowed very liberally, and it is charmingly situated on a high hill on the shore of the Mediterranean and facing the city. The front of the building is the shape of a segment of a circle, composed largely of marble, and it has two long galleries or corridors. There are five pavilions for the sick, two and a half stories high, with basements, projecting out from the corridors toward the sea. The kitchens are located in the basement, and the upper story contains rooms for the help. The wards on the first floor are for the medical service, and those on the second floor for the surgical service. The operating-room for septic cases is, however, on the first floor. The main operating-room and a smaller "laparotomy-room" are on the second floor. There are twenty-two beds in each ward with the usual small rooms at one end for patients requiring special attention, and the service, diet-kitchen, etc., are at the other end. Connected with the hospital is a small well-equipped laboratory building, containing post-mortem rooms, museum, etc., in the hands of paid men. The x-ray laboratory is also in the hands of a competent salaried man.

MILAN

Milan is but a few hours journey from Genoa and is the second largest city in Italy, having somewhat over six hundred thousand inhabitants. Milan is not a university town proper, as the university is situated at Pavia, about a half hour ride by train. The hospital is not only one of the oldest, but it is the largest in Italy, having a capacity of three thousand beds. The main buildings are still in use after over five hundred years of continual service, and old as the buildings are they are still very useful for the purpose. A year ago while traveling in Mexico I was very much interested and impressed with the old hospital at Guadalharja, which was built one hundred and thirteen years ago by a Spanish Bishop. I thought at the time that it would be difficult to plan a hospital for a tropical country which would be superior to it. When I saw the plan of these old buildings at Milan, which were originally built for a monastery, I immediately recalled the similarity in design between the two. The hospital is built in the form of a series of crosses connected at the ends, leaving a little enclosed courtyard in the center filled with flowering shrubs and trees. In each arm of the cross is a ward containing seventy beds, or two hundred and eighty beds in each cross. The altar, acting as a partial screen between the four wards, is in a glass compartment in the center, and the two hundred and eighty patients are thereby enabled to participate in the religious services. The ceilings in the wards are about thirty feet from the floor. Windows are numerous and begin six or seven feet from the floor, thus giving free circulation of air. Medical patients occupy the old building; surgical, gynecological, and obstetrical patients occupy seven pavilions, which have been built recently. In each of these pavilions there are four wards with a capacity of thirty beds each.

I was fortunate in having met Dr. Andrea Majocchi while he was in the states, about a year ago, looking up data for the hospital authorities to aid them in the completion of a plan for modernizing their old buildings. Dr. Majocchi visited France, Germany, Switzerland, Austria, Great Britain, and the United States. He remarked very enthusiastically to me: "As splendid as were the institutions of all the countries, I admired the American hospitals and clinics most." Through his kindness I was enabled to make the best use of my time in the way of medical sight-seeing in Milan.

The accident service in Milan is very large.

Professor Rossi showed me a large number of cases of fracture of the femur with results which I have never seen equalled by non-operative measures, that is, taking one case after another. Patients coming to the hospital with fractures of the femur have a light Buck's extension applied with an ice-bag at the seat of the injury for twenty-four or forty-eight hours. At the end of that time the patient is put on a fracture-table, similar to the one I saw Schede using in Bonn, ten years ago. Professor Rossi told me that he had used this table for a model, although he had simplified it greatly. The injured limb is moderately abducted and screw-traction put upon it. While held in this position the foot, ankle, leg and thigh are amply protected by cotton, and casts are applied, leaving the knee and part of the ankle free. Into this cast two lateral splints are incorporated, jointed at the knee, which continues the extension, but permits motion. A spica plaster-of-Paris bandage encloses the pelvis and is joined to the cast. After three days a radiograph is taken, and if the fracture is not in good apposition, which happens in about fifty per cent of the cases, the patient is put back in the fracture-frame, but, instead of securing the counter-extension by traction, the limb is slipped through an iron ring, which acts as a collar around the upper end of the cast. The cast is then cut through in a circular manner at the seat of the fracture, which lies just above the ends of the iron splints. Traction is again applied, separating the cut cast until the ends of the fracture are in apposition. The gap is filled with fresh cotton wadding and plaster-of-Paris, and the ends of the Buck's extension-straps, which have been used for the pressure-traction, are caught into hooks on a little roller in the bottom of the splint. With a high shoe and a pair of crutches patients are permitted to ambulate at once, and in the wards a dozen or more of them were moving about. I saw several cases which were being treated in this manner, and examined the radiographs of their injuries. I realize that my imperfect description of the method will not enable any one to carry out the treatment, but I hope it may call attention to this very excellent method of treating fractures of the femur.

In Professor Crosti's pavilion I witnessed a cranial operation for a tumor which proved to be a glioma. I was interested to note that the surgeon wore cotton gloves over his rubber gloves while operating.

The gynecological and obstetrical pavilion, made famous by the late Professor Porro, whose

statue adorns the front of the building, is now under the directorship of Professor Mangagalli, who does a large amount of abdominal work. He wears rubber gloves, etc., as we do in this country.

VENICE

The hospital in Venice, like the one in Milan, dates back to the fourteenth century and was originally built for a monastery. It has high ceilings and large wards. One ward, which was built for an audience-chamber, contains a hundred and fifty beds. The wards appeared scrupulously clean. On the walls are beautiful paintings by the old masters, and the ancient wood-work is the most decorative I have ever seen. Professor Giordano is the surgical director in this hospital. He is a rapid operator and uses a mask, but no rubber gloves. His assistants wear them, however, but without sleeves. Professor Giordano showed me a number of interesting cases in his wards. He has had several cases of one-sided nephritis treated by decapsulation, with good results. This hospital, with its fine clinical material, is well worth visiting. The building is a quaint old place surrounded on three sides by the sea, with a tide of from two to four feet. The air is constantly fresh, and, as practically all manufacturing establishments in Venice use hand labor, there is no dust or smoke to soil the buildings.

FLORENCE

The general hospital at Florence (Ospedale di St. Maria Morra) is very old, of the thirteenth century. The only modern parts connected with it are the operating-rooms, which were given by a wealthy American woman who married into the Italian nobility. Professor Burci is the surgical director of this hospital. He was very kind, and I enjoyed the privilege of visiting his wards to see patients after operation. He showed me many interesting cases, especially of tuberculosis and syphilis of the bone.

I spent a good share of one morning with Professor Celso Pellizzari, who is the leading specialist in skin diseases in Italy. He has an enormous amount of material, his apparatus is of the best, and with the aid of a number of assistants he uses the Finsen light, the x -ray, and radium for lupus, epithelioma, etc. He said that the Finsen light is the most useful of all in lupus, but it has no effect on epithelioma. In superficial epithelioma the x -ray is effectual, and radium is the most powerful. He has a large apparatus for the treatment of cancer by *fulguration*, but has

not found it of any special value over the older methods.

ROME

The Polyclinic in Rome is a modern hospital built on the pavilion plan, two stories in height. It occupies a fine position in spacious grounds filled with shrubbery and trees. The hospital has a capacity of twelve hundred beds. The front buildings are used for administration purposes and for university clinics, including the laboratory for special research. Professor Durante, who holds the chair of surgery in the University of Rome and who is director of the surgical clinic, has eighty beds at his disposal in the hospital. Professor Durante is a man somewhat over sixty years of age and is especially interested in teaching and in experimental research. Many interesting investigations are made in his laboratories.

In addition to these eighty beds for surgical cases there are three surgical pavilions of seventy-four beds each. Professor Bastianelli, who is well known in America, is director of the first pavilion. The second pavilion is under the care of Professor Alessandri, and the third pavilion is under Professor Ferreti. In all, nearly four hundred surgical beds, for which ample material is furnished. One or more clinics are held here every morning, giving a splendid opportunity to visiting surgeons. Somewhat over seven hundred operations are performed every year in each of the three pavilions. In the University clinic six hundred operations are performed, and in the gynecological clinic five hundred, making a total of about thirty-three hundred operations a year.

Professor Bastianelli has recently introduced, in his pavilion, the first school for training nurses in Italy. English trained nurses are at the head of the school. The operating-rooms in this pavilion are well lighted, and the work is conducted in the most modern way. The surgeons wear caps, rubber gloves, and sleeves, and the general aseptic and antiseptic arrangements are splendid and carefully carried out. I had the pleasure of seeing a number of operations performed by Professor Bastianelli and Professor Alessandri at the Polyclinic, and I wish to express my admiration for the high character of their work. My acquaintance with Professor Bastianelli's clinic was much more extensive than with that of the other clinics, and I was greatly interested in what I saw there. Both Bastianelli and Alessandri used spinal anesthesia in preference to any other. In operating about the upper

part of the body and head, the patient is put to sleep with chloroform and the anesthetic continued with ether, using a Sudeck inhaler.

As regards spinal anesthesia: Professor Bastianelli has used it in his clinic in more than seventeen hundred cases without a death. He prefers novacocain, and never employs the high injection, to which he is, in fact, very much opposed. The injection is usually made quite low down between the third and fourth lumbar vertebrae. For abdominal operations, ten c.c. novacocain, in a Merck's tablet, is dissolved in one c.c. of sterile water and sterilized over an alcohol lamp. This solution is drawn up into a syringe, which is provided with a strong needle, in order that it may not break and leave a piece in the body. The needle is detached. The patient is placed in a sitting posture bending forward, and the usual lumbar puncture is made with the needle not higher than the second or third lumbar vertebra. An assistant places his finger parallel with the crest of the ilium as a rapid means of indicating the fourth lumbar spine. When the spinal fluid begins to drip,—sometimes it is necessary to use syringe-suction to start the flow,—the syringe containing the novacocain solution is attached to the needle, and two drams of the spinal fluid are drawn into the syringe and allowed to mix with the solution. The contents of the syringe are now forced into the spinal canal, and again the syringe is filled with the mixed fluid in the canal. This is also forced into the canal, and the needle withdrawn. In all the operations I saw, the analgesia was complete. For example, a large ovarian cyst was removed; a nephrolithotomy in a fleshy male, which necessitated the removal of the twelfth rib; a suprapubic prostatectomy; and many other operations. The lower the site of the operation the more effectual the analgesia, seven cubic c.c. being ample for any operation on the lower limbs. If the patients exhibit any symptoms of collapse they are given camphorated oil subcutaneously.

Professor Bastianelli was experimenting with chloroform solution given in the veins as an anesthetic. He prefers chloroform to ether in this method as being less liable to cause embolus. In administering this anesthetic the saphenous vein is exposed in the middle of the thigh, and a cannula is introduced and tied into it. The cannula is connected by rubber tube to an air-pressure bottle containing two liters of fluid,—chloroform .06 c.c. in a hundred grams of salt solution. This solution is slowly forced into the veins by hand-bulb air-pressure on the contents of the bottle.

Professor Bastianelli says that not more than two liters of the solution should be used, as it over-fills the circulation and causes hemorrhage. He says that heart disease and arteriosclerosis are contra-indications to its use, and he does not, moreover, advise its use, as the method is at present purely experimental. I witnessed an operation on a male patient with extensive cancer of the mouth and tongue, who was anesthetised in this manner. The case was in a way a desperate one, and the operation was successfully accomplished.

Another very interesting case which I saw in this clinic was the removal of the tongue under local anesthesia. A little novacocain was injected into the tip of the tongue, which was then grasped with Volsella forceps. Novacocain was injected laterally close to the jaw, and in a few moments the whole tongue was removed painlessly with a pair of curved scissors.

His method of preparation of patients for operation is rapid and apparently effectual. The patient is washed and shaved without soap some hours before operation. When brought to the operating-table the field of operation is scrubbed with benzine containing one to one thousand iodine. When the skin has dried it is covered with tincture of iodine, and the patient is ready for operation. Water must not be used, as it causes swelling of the epithelium and prevents penetration of the iodine. The deeper layers of the skin will be penetrated in three minutes. We have used this method of preparation in our clinic for several months and can heartily recommend it. Tincture of iodine undergoes chemical changes which render it irritating to the skin, and should not be used when it is more than a week old. We have found three-and-one-half-per-cent tincture efficient. This is one-half the official U. S. P. tincture.

If the rubber gloves worn by Bastianelli or his assistants become soiled during operation, they are washed rapidly in a basin containing alcohol, two parts, and tincture of iodine, one part. This solution is washed off with sterile water, and the gloves are not changed.

Professor Bastianelli uses silk for sutures and ligatures. The silk is boiled ten minutes in five-per-cent carbolic acid solution the night before it is used and again in the morning just before it is used. It is taken directly from the solution.

There were two series of experiments being conducted in the Polyclinic which appeared to me to be of great value. The first was in connection with osteomalacia, a very common disease in

Italy, and by no means confined to the parturient state. It is occasionally seen in men. These patients are often bedridden for months or years, acquiring great deformities, which are rendered permanent by the eventual hardening of the bones. Many years ago it was accidentally discovered that removal of the ovaries would sometimes cure the disease. It has now been shown quite definitely that it was not the removal of the ovaries, but the effects of the chloroform anesthesia, which brought about the remarkable cure. These patients are anesthetised once for one-half or three-quarters of an hour, which usually results in a cure. I saw a great many of these cases in the hospital. Professor Arcangeli has been able to cultivate a specific diplococcus from pieces of bone and periosteum, which were removed by a slight operation for the purpose of examination. The material is usually removed from the tibia. Professor Arbom found the same diplococcus in rickets, and Professor Bignami found the same diplococcus in Paget's disease of the bones and joints. They have been able to cultivate and culture this diplococcus and, by injecting it into rats, to produce the characteristic bone-disease. If injected into young rats, up to five days old, it produces typical rickets. If introduced into adult rats, it causes osteomalacia. As a result of these experiments a curative serum has been produced which appears to be efficacious.

The second experiment, and the thing that impressed me more than any other one thing in Italy, was the extraordinary cancer research being conducted by Professor Fischera. It really does appear as though we are in sight of positive knowledge in regard to the disease. Personally, I have never been impressed with the germ theory of the etiology of cancer. It seems to me that up to the present time a modification of Cohnheim's original hypothesis, gives the best working theory of tumor-formation. The only thing which we have known positively about carcinoma is the influence of chronic irritation in its production. Chronic irritation causes, normally, an increased production and activity of the epithelial elements, obeying the natural law of compensation; but when this process fails to stop—when compensation is complete and continues to develop and to invade other tissues—we have cancer. An injury causes activity of the connective-tissue cells for the purpose of repair. When this activity fails to stop at the point necessary for repair, and continues riotous production and invasion of the surrounding parts, we have sarcoma. The causation of the condition, then,

may lie either in the stimulation which causes it to advance or in a lack of normal ability to check. That it is the cell itself which is diseased is shown by the fact that all secondaries, no matter where situated, reproduce the primary cell and not merely a cancer of the organ in which it is found; that is, in cancer of the lip with a secondary of the liver, the secondary will be epithelioma.

It follows, then, that the vital point in cancer, both carcinoma and sarcoma, is the rapid un-called-for production of embryonic cells. It has been shown that an extract made from a normal organ when injected into a healthy animal, tends to cause the destruction of the same organ. Bolton made an extract from the scrapings of a normal animal's stomach, and this extract when injected into a healthy rabbit caused ulcer of the stomach. Maury showed that an extract of bile-pigments would cause fatty degeneration of the liver. Finally, in the contagious tumors of rats it was found that an extract made from an embryonic rat would cause the tumor to disappear.

The explanation of Fischera's experiments lies in these known facts: As cancer is due to the unlimited production of embryonic cells, an extract from embryonic cells furnishes the necessary check to the production, and the tumor is then removed through normal processes.

Professor Fischera took two-to-six months' human embryos, which were easily obtained in the obstetrical pavilion, crushed them up, and put them in a salt solution until they were dissolved by autolysis. This solution was then injected into patients suffering from cancer. Five patients have been cured through this procedure. I saw three of them.

CASE 1.—Carcinoma of the tonsil, cheek, and wall of the pharynx, with extensive glandular involvement. The case was examined by Professor Alessandra and a piece of the growth removed for microscopic examination. The condition was considered inoperable, and the patient was turned over to Professor Fischera. After a number of injections a complete cure was the result. I examined the patient and saw the scars in his throat. I also examined photographs and microscopic slides of the tumor.

CASE 2.—Patient with cancer of the rectum, operated upon by Professor Alessandra. Return of the disease *in loco*. Microscopic examination was made, and the condition was pronounced hopeless. The patient was completely cured by injections.

CASE 3.—A woman with a huge carcinoma of the breast; enormously enlarged axillary and subclavian glands; arm swollen; condition inoperable. After a number of injections the glands completely disappeared, the arm became normal in size, and the tumor was reduced to one-fourth of its former dimensions.

It is worthy of notice in these cases that there was extensive glandular involvement, and that this involvement was the first to disappear.

It should be remembered that all of Professor

Fischera's cases were examined by competent clinicians.—Durante, Bastianelli, and Alessandra; and that pieces of the tumors were removed for microscopic examination.

Professor Fischera is extremely modest and claims but little for his work. He has given his method and his results freely to the profession. While I am not at all convinced that a cure for cancer has been found, I am of the opinion that Professor Fischera's work is philosophic in its reasoning and a distinct step in advance.

THE HEALTH OFFICER, PHYSICIAN, AND GENERAL PUBLIC IN THE ENFORCEMENT OF HEALTH REGULATIONS*

By F. M. SMERSH, M. D.

OWATONNA, MINN.

In taking up this subject, it is to simply call the attention of the members of this Association to the present existing conditions, as well as to the future possibilities that may be realized from paying closer attention to our now existing health laws and regulations, as also to the importance of getting a better insight into, and understanding of, the same, so that, as physicians, we may be able more intelligently to enlighten those who come under our care, and thus be able to aid those who have the enforcement of these regulations, or such preventive measures as would be most effective in controlling contagious and other diseases.

Preventive medicine.—The fact that preventive medicine is making rapid advances is more apparent every day, also that there is now a vast army of men who have to do with the investigation in this line and the enforcement of the laws and regulations governing the same. These forces are being more thoroughly organized all over the country, and it will not be long before the organization will be complete, and we shall have a national board of health at the seat of our national government, which, with the aid of the general government, will be of great assistance to the state and municipal boards of health in the carrying on of the important work.

It is because of this advance in matters pertaining to public health, that it is the duty, and in reality becomes a necessity, that the medical men shall discuss the subject in their meetings.

so as to keep pace with the advances made, and thereby be in position to give the aid that will be expected of them in this movement.

The health officer.—This individual is certainly placed in a peculiar position. Being the executive in the field of action, he is the one who must enforce the health laws. He should be well versed in all contagious diseases for his own sake, as well as for the benefit of others. Being a physician himself he must be ever watchful not to make any mistake in handling suspicious diseases, and he must be even more strict in handling cases of his own than those of other physicians, so as to be able to enforce the health laws in every case. The unpleasant and thankless part of his duties is the watching, and bringing to the realization of their duty, the other practitioners in reporting contagious and infectious diseases and also properly reporting births and deaths; for the making out of proper reports seems to be a hardship for some.

The health officer is the one who must keep a watchful eye on all such in his locality, and must not let one slip by without making him observe the law. Should it, however, happen that some light case of contagious disease is not reported, in order to escape the quarantine, there surely will be trouble, as the next person who has the same disease, or any other contagious disease, will want to know why he should be quarantined when Mr. So-and-so was not. I find, however, that, as the people know more about preventable diseases, it becomes harder for any one to escape quarantine. We occasionally find that where the

*Read before the Southern Minnesota Medical Society, August 4, 1910.

attending physician has expressed his suspicion, and has warned people not to admit any outside party, some good neighbor is sure to find this out, probably being refused admission. The health officer is sure to hear of it; he may even be blamed for not placing a quarantine on such a place, although he has not known of the disease.

We have also the condition that some do not believe in quarantine in controlling contagious diseases. Considering that, at the present time, it is the only effective means we have, if properly carried out and the required time to each case be given, especially in some diseases, it is best to use this measure effectively. The holding of cases in quarantine the required length of time is rather annoying at times. In a great many instances the attending physician is to blame, because he has discharged the case as soon as the active symptoms subside. Naturally, people then get the idea that the disease is over and quarantine should be released, when in reality it should be held stricter than before, for it is during the time such a disease is thrown off that there is the most danger of contagion. To illustrate how some physicians will do in these cases, I will give you an example of a Polish family of eight children who had contracted diphtheria. The history of this family also illustrates what ignorance in contagious diseases will do. The child that was first taken sick was treated for a simple sore-throat by home remedies; when, however, the child got quite sick and the other children were coming down with the disease, a doctor was called. The first child, not having received the proper care and treatment, died; the others, who were properly treated with antitoxin, recovered. As soon as the clinical symptoms had disappeared, the people wanted to be released from quarantine, claiming that the doctor said that they could not be kept in quarantine over three weeks, while, in reality, it is six weeks after all the clinical symptoms have disappeared, or when two negative cultures, before that time, are received for all cases who were sick. Now, in a simple matter like this, the doctor should have known better; and if he did not know, he should have inquired first before making any positive statements. In these cases I do not argue the matter with the family, but simply call up the physician and inform him as to the actual conditions that must be fulfilled before the quarantine can be released; and, further, if it should happen that in other cases there is any doubt about matters of this kind, to call up and find out what is required of the doctor, as well as the health officer, so as to avoid any unpleasant complications.

I wish now to say a few words as to the diseases that are to be reported, but are not quarantined. These reports are mostly made for the purpose of gathering epidemiological facts, also for the purpose of giving the State Board of Health such information as will enable it to work out the source of the disease, if possible, and to send out instructions to those who have charge of the sick ones, as to the proper care and handling of the disease to prevent its further spread.

The health officer cannot do his duty in these cases unless the physicians of his locality co-operate with him by making proper reports. The health officer, however, should always be ready to impart the needed information pertaining to the control of preventable diseases; in fact, in all matters pertaining to his office. To be able to do this, he should make use of every means offered for this information, especially by membership in some one or more of the various health organizations, where he may meet men who are drilled in sanitary matters and where he can get the advanced ideas that will enable him to give the needed instructions to others in his community, either individually, as occasion may require, or generally. The last may be done through the press and papers read at county medical societies. I believe it would be a good plan for every county society to hold at least one meeting when nothing but papers on sanitary matters should be read and discussed. Let this be a public meeting, inviting the representative citizens, also the ladies' social clubs, and let them get the benefit of such a meeting, and I venture to say that the medical profession, as well as the general public, would derive quite a benefit from such a meeting, and it would be quite a help to the board of health in performing their duty.

Last, I will say that, in order that the health officer may accomplish any great amount of good in the way of bettering the general sanitary conditions, he must go about his task with the least amount of friction with the medical fraternity, and also the general public. He must use considerable tact, and be able to explain away considerable of the hard feeling that may arise, and be able to make the other party see, when necessary, where he is wrong. In most cases it is best to go about the duties quietly, and gently, but with that degree of firmness that will impress upon the other party that you mean business. In this way I believe the health officer can accomplish the most and get results when otherwise he would fail.

The physician's position in the matter of health regulations is one that apparently calls for some

sacrifice of personal interest. This can, however, be obviated if the straight road ahead be taken and the physician does his whole duty as he should. In the first place there should be no favoritism shown to any one of his patrons more than to others, in the exercise of his duties as required of him in the health laws. He must treat all alike, for there will be trouble if he does not. We will say for argument's sake that Mr. Jones' family has a case of contagious disease, which may be of a rather mild type. Mr. Jones, of course, will consider it a great favor if it is not reported, so that he would not be subject to the quarantine regulations, as this might inconvenience him somewhat. Now, then, just as soon as this request is complied with, just so soon are we making an opening for trouble, as the disease is liable to spread and the next case that breaks out may not be so easy to cover up; and should the latter family, after being quarantined, know, or even suspect, the nature of the first case, we can be assured that there will be a loud protest, and the family will be very liable to get sore at the doctor for not treating them the same as Mr. Jones. Then there is a chance of losing their patronage, besides taking chances of having the pocket squeezed for a fine by the authorities, which is not altogether a pleasant duty for these officials and rather a bad sensation for the doctor. This can all be avoided, however, by doing what is right and by treating all alike. It may be necessary to explain to Mr. Jones that it is a duty that both yourself and he owe the community, and lay special stress on the idea that you know that he would not want to be guilty of wilfully exposing those with whom he is liable to come in contact, to the disease, and point out the fact to him that he, as well as yourself, is liable to a fine. I have every reason to believe that this will generally settle the matter, and all parties concerned will have the satisfaction of having done what is right, and will feel better for having done so. The moral of this is, be sure and report all contagious diseases, and you will make no mistakes.

The list of reportable diseases is on the report cards, so that there is no chance or no excuse for not knowing what disease is reportable and what one is not. Right here I will say that in filling in a report, be sure to give all the information asked for as completely as possible. This is to be done for the purpose of making good records, so that these will be useful for future reference, as well as serving the purpose of controlling the then existing epidemic.

In reporting births and deaths, the physicians should be more painstaking than they are. I venture to say that in filling in these blanks very few physicians read the instructions in them. If they would take the pains to do so, they certainly would make a better showing than they do. There is one thing that I have found very noticeable, namely, the margin of the face of these blanks says, in heavy type, "This blank is a permanent record, fill in with unfading ink." Notwithstanding this, some of the records are sent in filled out with a soft lead-pencil. We now refuse to accept such a record, as it is due to sheer carelessness. In filling out birth records physicians should show more care to make these records as complete as possible, not only for the sake of making a proper record for filing purposes, but because of the duty he owes the child at whose birth he has officiated. It may mean a great deal to this new-born individual in the future. For instance, about two years ago, I received a letter from a probate court somewhere in Wisconsin where an estate was being settled, asking for the establishment of the identity of a certain young woman who was born in Owatonna. In looking over the records I found a complete record of this young woman's birth. The physician who attended at the birth of this girl did his duty by the child, by making out a complete report of her birth, and thereby saved her considerable trouble.

In reporting deaths, the same care should be exercised. The record should be made out in readable writing, containing all information asked for, as near as is obtainable. The cause of death should be stated clearly and to the point, not going a rambling sort of way about it and naming a half dozen or more diseases when one of these would suffice to kill the patient. I here give you, as an example, the reported cause of the death of a child twenty-five days old. The cause of death was as follows. "Partial Bulbar Paralysis, Inanition, Anæmia, Oedema of brain, Nephritis." Now, then, the question is, of what disease did the child die?

I would ask for the benefit of the man who has the filing of these records and compiling vital statistics that physicians exercise more care and give a more concise and exact cause of death, as this will be of help to those who have to do with these records and will make the records more valuable.

In summing up the physician's part in the carrying out of the health laws and regulations, I would say: Be sure to give heed to the laws, read instructions relative thereto, in case of doubt

inquire of those who have to do in enforcing them. Do this, not because it is required of you, but because it is a duty you owe your patrons and immediate associates as a physician.

The general public and the health laws.—This part of the sanitary problem is now much easier to handle than it was some years back, although we still run across some obstructions occasionally yet the general conditions are considerably improved. The reason for this is attributable to the educational work that has been done, considerable of this, through the medium of the press. There is, however, a great deal more to be done, and this must be done by the medical profession. It must be done, however, in such a way as will gain the confidence of the people, instead of raising suspicion. Heretofore any action of the health officer was, and is still, to some extent, considered as an encroachment on personal liberty. This feeling of distrust of the general public is utilized by those who are always ready to fight any advance in sanitary matters, for fear it will interfere with their business of making fortunes out of the suffering of others. By utilizing this feeling and working it up to the highest pitch, it is now used against the "Owen bill," claiming it to be a bill of a medical trust. This also shows how any sanitary measure advocated by physicians was, and is still, looked upon by some, for the average mind cannot see why the medical man should try to prevent disease, figuring that the more sickness in a community means a bigger income for the doctor. This state of affairs, however, is somewhat better than it used to be, especially among the better informed; still it is not as it should be. The people should be led to see that it is more important to prevent diseases than it is to cure them, and that the doctor is only doing his whole duty when he is making an effort to prevent disease, as well as when he is trying to remove it; and, further, that the doctor should be paid, not only for taking care of the sick, but for looking after the physical welfare of those who are well. For example, let us say that a contagious disease has broken out in a community. The doctor is called to treat some member of a family where the disease has started. Now, then, the physician should be paid a good fee, not only for taking care of the sick member, but also for preventing the spread of the disease to the other members of the family, as also to those of other families who may have been exposed.

The doctor's efforts in preventing disease should be considered even more valuable than in

treating the sick. When this ideal condition is brought about, then the health officer will come into his own; he will then be paid for the services he renders to the community, as well as for the services he renders to his patrons.

The only way this ideal condition can be realized is by the long, tedious process of educating the people up to the value of preventive medicine, and this probably should be started in our schools from the primer class up. The initiative of this work of educating the public must, of necessity, fall upon the medical profession, not only the health officer, but the general practitioner as well. To be able to do this effectively, we must keep abreast of the times in the advance made by preventive medicine; and I fully believe that, as a result of our efforts, an ideal condition will materialize, when the physician will not be looked upon as one who is looking for gain by other people's distress; and, further, that the medical profession will then come into its proper place in the hearts of the people, and the cry of "Medical Trust" will be of no avail to those unprincipled individuals who prey upon suffering humanity and make capital out of their misery. It is the unprincipled quack who has reason to fear health laws and regulations, and not the scientific physician.

So, in conclusion, I will say that our present methods may not be without fault, but to be able to correct them we must thoroughly understand them to know where there is chance for improvement. "Use that that thou hast, and it shall be added unto you." So let us, as physicians, use those sanitary laws that we have, to the best of our ability, and we then can hope for better things to come.

NON-DETENTION AN ALL-IMPORTANT FACTOR IN THE TREATMENT OF THE DRINK HABIT

Charles A. Rosenwasser, of New York, says that the cure of the alcohol habit is impossible without the active co-operation of the patient, and unless perfect confidence in his physician is established. To place him in detention for a long time is useless, both because he is unwilling and because he generally gets alcohol surreptitiously. He must be treated as an aggravated case of neurasthenia, and each case must be individualized. Many patients are cured, others are incurable, all are liable to relapses. The condition should be treated as disease, and the patient aided, not blamed. The drink habit is a manifestation of a chronic diseased condition.—Medical Record.

A PLEA FOR THE BETTER EDUCATION OF THE YOUNG IN SEXUAL MATTERS*

BY O. F. WAY, M. D.

CLAREMONT, MINN.

I am well aware that the subject of this paper is one seldom discussed in a meeting of this kind, or, in fact, in a meeting of any kind except it be in a crowd of vulgar men or a gang of boys from twelve to eighteen years of age, and when discussed by either of these it is only in vulgar and lustful language tending only to degrade and make sensual the instructor and hearers.

I do not believe it is a subject often discussed by women.

On account of these facts the knowledge obtained by most young people of this subject is of the most vulgar kind, and not what they should know to cause them to live happy contented lives when the time comes for them to exercise these functions in married life, and it is not uncommon for men and women to enter this relation almost wholly ignorant of the proper function and uses of the sexual organs.

Most young men have learned that there should be great pleasure in the union of the sexes. They usually have learned by self-abuse or by illicit relations with women somewhat of the pleasure associated with the act, and the great object in their wedded life is to bring about the act as soon as possible and repeat it as often as their physical powers will permit.

Not so with the average woman. She may have learned that a fond embrace from her lover is pleasing, and also that in wedded life these lover embraces and fondling are liable to lead to a sexual union which is very likely to get her into trouble and increase the number of her family, and therefore when the young man, believing the wife just as anxious to indulge in sexual relations as himself, hardly waits until they are in bed before he makes the proposal, usually finds her timid, afraid, and unready to so quickly respond to his wishes. However, his passion is now aroused, and he perseveres until he often almost forcibly accomplishes his purpose, probably with much physical and mental suffering to his wife and little satisfaction and pleasure to himself, and thus the first night of their wedded life, which has so long been looked forward to as the happiest in their existence, has been turned into a night of fright and pain for the wife and

of disappointment, disgust, and possibly anger for the husband, and many times the difference thus begun widens almost daily until soon this couple, who seemed to think so much of each other before marriage, become cold and indifferent, and unhappy and despondent, living together only because the law has bound them, or perhaps because of the several little children which have come to them for care and protection, and which should be the greatest blessing, but often serve only as an extra care and encumbrance.

About this time, the husband, having been disappointed in his anticipations, or the wife, still yearning for the love she dreamed of before marriage, begins to look to others for the pleasure and love that have not been found in the partner. This soon leads to still more unhappiness, separation, divorce, disgrace, and all largely because of the ignorance of both parties at time of marriage, in not knowing how these relations should be performed to give pleasure and complete satisfaction to both parties. For the seminal emission on the part of the man and the orgasm on the part of the woman, if she is fortunate enough to have that sensation, should be but a small part of the real pleasure derived from the sexual embrace of two perfectly adapted persons. I believe that more unhappiness in families, more separations, and divorce, are caused on account of sexual inaptitude than by all other causes combined, and it is in hope of starting a sentiment favorable to the better education of the masses on this subject, that they may not only know how to perform the function properly, but, if possible, may know before marriage whether the intended contractors are adapted to each other or not, that I bring this paper to your attention.

I firmly believe that not every couple is adapted one for the other, no matter how well they may be educated on the performance of this function, nor how much they may have been in love before marriage. There are those who, sexually speaking, are not suited for one person, though with another the union might be perfect.

I do not believe, as some would have us, that these organs and functions should be used only

*President's annual address, read before the Southern Minnesota Association, August 4, 1910.

when it is desired for procreation. I believe they were given for enjoyment and affection, and the more this side of the question is regarded the more harmonious the married life becomes.

It may be urged that the parents are the proper ones to give the needed instruction to their children, but we all know they seldom do so. Few books are written which impart proper knowledge on this subject.

As physicians we hold a closer relation to most families than do the majority of people, and I believe it behooves us to educate our patrons to look to us for instruction in this line as they do for the prevention of contagious diseases.

All knowledge must be acquired, either by personal experience or by being imparted by others. The average person is accorded very meager facilities for obtaining sexual knowledge by personal experience until marriage, when it is too late to be of value. Especially is this true in the case of the woman, and absolutely prevents her obtaining experience while single, or subjects her to ostracism for her indiscretion.

Very much time and energy is expended in teaching young people how to conduct themselves in society that they may make good impressions, and attract and entertain those with whom they come in contact. Every effort is put forth to make desirable matrimonial alliances, viewed from a social standpoint, but the education relative to conduct after marriage is sadly neglected. Here the young are left to work out their own salvation with seldom a word of proper instruction on what is so vital to their future happiness. To properly educate the young in these matters I believe would be the means of making much happier families, fewer divorces, less scandal, and much less suffering and disease.

The great question is, Who shall do this teaching, at what age shall the teaching begin, and what shall be taught? These are all important points and should be carefully considered.

First, I believe the family physician should be the one to give the instruction to both the boys and the girls. This advice should be given honestly and forcibly impressed upon the young, not once to soon be forgotten, but should be repeatedly impressed, so as to never be forgotten. Never should the subject be looked upon lightly, or considered in the vulgar manner in which it is usually discussed.

With regard to when the teaching shall begin I would say, there is little need of such teaching before the age of puberty, but even children younger than this should not be told, as many

now are, "that little baby was found in a basket or the doctor brought it in his satchel," and all such talk. The smallest child is considered old enough to be told "the hen laid the egg," and why is it any worse for him to know that mamma had the baby?

At the age of puberty the child should be taught the functions of the generative organs, their proper care, and the results of improper use and abuse, and this should be taught before wrong habits have been established, for in this, as in most other things, "an ounce of prevention is worth a pound of cure." Each sex should be taught its proper attitude toward the opposite sex. Boys should know that, as a rule, girls are not thinking of sexual relations as boys are, and they should learn not to construe every act a girl makes as meaning a desire for this relation.

The girl should be taught that boys are much more likely to be thinking of these things, and she should be very careful about allowing him privileges which may tend to increase his passion and cause him to be almost uncontrollable in this relation, for here an ounce of prevention is worth many pounds of cure.

A little later when young people begin "keeping company," each should be taught before entering this relation to weigh the matter carefully and decide whether the other is a person "I can respect, honor, love, and be willing to spend my whole life with in case we grow to love each other." I say this emphatically, for many young people begin keeping company with each other, when, were they to consider this matter, they would know they were not suitable, one to the other, for life-long companions, but they begin going together, perhaps simply to have some one to go with, but as they continue they begin to enjoy each other's company, and finally imagine they are in love. They get married, when, horrors! they soon find that what they supposed was love was simply passion, and as soon as that has been satisfied, their love has also vanished, and they are left to live together when they have no love for each other, and when they do not even enjoy each other's company, and when they are in no way suitable companions.

Our methods of courtship are excellent for creating a passion for one another, but are in no way suitable for determining whether two people are suited for life companions or not.

The method of some of the old countries, where the parents select the husbands and wives,

is fully as apt to result in harmonious unions, as they pick for some special qualifications. While I do not wish to advocate this method of selection I do believe some better way than the meeting and spending several hours of the night in a large easy chair, in a dimly lighted room, the girl sitting on the boy's lap, with no danger from intrusion of others, is not the proper way to select a partner for life who shall be not only a suitable companion but also a help-mate in the future struggle for success. Therefore teach the young to do their courtship during the day-time or in the presence of other members of the family; then when a choice is made it will be for some desirable qualification and not on account of a passion soon satisfied and followed with disappointment.

Just before marrying, the young man and also the intended bride should each visit a reputable physician and should there receive complete instruction in the method of procedure which each should adopt, not only at the beginning, but all through their wedded life.

The man should be instructed to go slow, to remember that in all probability his wife will be shy and somewhat afraid, and that he must give her plenty of time to accustom herself to his presence. Time should be given to carefully prepare her by gently caressing and showing his love until a desire shall be aroused in her for the nearest, and, what should be, the most holy relation which can possibly occur between husband and wife; and you may assure the young man that if he is successful, this first night, in giving sexual pleasure to his partner the future happiness of both is almost assured so far as sexuality is concerned.

Both parties should be instructed in regard to the frequency of indulgence, that they may most enjoy the embrace and not do injury to either.

Each should submit to a careful examination to be certain all organs are in proper condition and capable of performing this act in a perfectly satisfactory manner, and have any defect or deformity corrected, if possible.

The woman especially should be instructed not to look upon this act as immodest and vulgar in which she is to be simply a passive tool, but to look for it as an act which binds her far more closely to her husband than the marriage vow which she will take and in which she should join with perfect liberty, enjoy to the uttermost, and satisfy the husband to the fullest extent possible.

The young man should be informed that he

cannot expect his wife to desire his presence in so holy a relation if he comes to her with a foul-smelling breath from the use of tobacco or liquor, much less if he not only smells foul from these, but is also so much under the influence of them as to be disgusting indeed.

When a physician is about to make a vaginal or uterine examination he takes much precaution to prepare not only himself but also the parts of the patient concerned in the examination, as nearly as possible in an aseptic condition lest some infection shall occur, but few men or women about to enter sexual relations pay any attention to the cleanliness of the parts, and doubtless this is the cause of many of the diseases affecting women at the present time, therefore instruct both parties in this regard that they shall use at least ordinary care in the cleanliness of these parts.

We now come to another phase of this subject, the advisability of imparting information to which some may object.

I refer to the prevention of pregnancy. I believe of all causes acting to prevent women enjoying the sexual relation, the fear that they may become pregnant is the greatest. I also believe there are few persons indulging in this relation who do not adopt some method by which they hope to prevent this condition, though with what poor results is easily seen by the number of unwelcome children born into this world.

Could a woman know some sure means of preventing pregnancy, I believe the larger portion would not only enjoy the sexual relation themselves, but would also give the husband very much more pleasure and many times prevent serious nervous phenomena in one or both parties, for the method so often practiced of coitus interruptus is trying on the nervous system, destroys a large part of the pleasure, is disgusting to both parties, and is very likely even then to result in pregnancy.

Is there a safe method whereby the indulgence can be exercised without danger of pregnancy? If so, shall we impart this knowledge to those about to marry, or shall we leave this fear as a menace to the fullest enjoyment of the act?

Some will urge that if women know how to prevent this condition there are but few who would ever be willing to raise a family. While I admit that at the present time not one pregnancy in a hundred is intended, still I believe if a woman were able to regulate this as she would, very few married women would refuse to do their share in the further continuance of the race.

Certain it is that when a couple have been married for several years without children and they begin to believe it impossible to happen they will generally resort to any means to try to produce the desired family. And even if some mothers did not then have so many children as they do now, those who were born would be desired and welcome, the mother would be in a cheerful state of mind during her pregnancy, the child born under such circumstances would not inherit a downcast pessimistic nature causing him to be unhappy and miserable all his life, as many now are, and poor broken-down women would not be dragged to death by large families of children, but families would be more equal, all would be more happy, and many enjoy much better health and prosperity.

That the size of a family can be regulated in most instances without interfering with the pleasure of either party I think we are all aware, but as I understand the laws of our country we commit a crime punishable by imprisonment if we in any manner communicate this information to our patrons.

No matter how worn and overtaxed a woman may be, how poor her health, or how many children she may have already borne, all we may say to her is, "This should not occur again or it will be the ruination of your health," knowing all the time as we do that it will almost surely occur or there will be trouble in the family because the wife is not willing to gratify her husband and take her chances of another impregnation.

Fellow physicians, this is not right, we should not only be permitted to give advice, but we should urge the wife to adopt a safe and harmless method of preventing this condition, thus procuring her good health and assuring happiness and contentment to the family.

When a woman has become pregnant I believe nothing but the necessity to save her life should ever be a reason for interrupting its development, but preventing an undesirable pregnancy by a means not only harmless, but cleanly and beneficial, I believe should be perfectly legitimate and would result in much more happiness in families, much fewer scandals and divorce, many less cases of jealousy, nervous prostration, melancholia, and the whole list of nervous diseases.

How often we see a beautiful, healthy young woman almost immediately after marriage begin to lose her healthy color and flesh, begin to look dragged and all played out, and soon become a chronic invalid, while another woman apparently

not strong, pale and anemic, begins to improve in health almost immediately upon entering the married relation. Why this difference? Generally simply because the sexual relations in the one case are congenial, while in the other they are not.

It matters not what other troubles and hardships one is obliged to go through they will not produce the effect that unsatisfactory relations of this nature do.

The above conditions are also true as regards the man, though he generally being the more active member in the relation conducts it for his own pleasure and is not so much affected if the relations are not perfectly harmonious.

Many a woman goes through her whole life without ever experiencing real sexual pleasure. To many the act is absolutely disagreeable and even repugnant. They submit to it simply to gratify their husbands or keep them from actual anger.

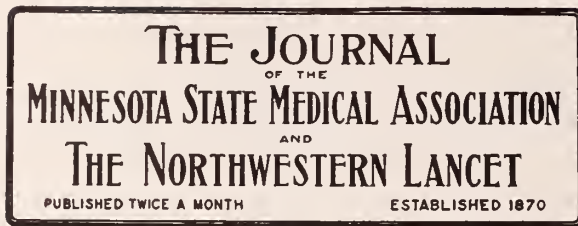
This condition is largely on account of ignorance in the very beginning of the wedded life, and proper information at that time would have turned these lives of suffering, misery, and discontent into lives of happiness, pleasure, and perfect content.

As stated before, not all people are sexually suited to one another. There is doubtless some law of nature which, if understood, would enable those desiring to enter into these relations to know the ones sexually adapted for each other.

It is with the hope of awakening a deep interest, thereby prompting a study as to the best method of educating the people on this subject, firmly believing that to be a means of producing much more happiness, health, and satisfaction, in families, that I ask your consideration of this paper.

THE LIMITATIONS OF THE CALORIC METHOD OF INFANT-FEEDING

Henry Dwight Chapin, of New York, states that caloric feeding of infants is a failure, on account of the absence of any index of the amounts of protein needed for the infant's growth. If only as much heat-producing material is taken in as there is heat given off, there can be no storage of protein for growth. The amount of food needed for growth cannot be determined by the amount of heat excreted. Foods that are of equal heat-producing value and equally digestible are not interchangeable for different individuals.—Medical Record.



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ENTERTAINMENTS AT THE STATE
MEDICAL ASSOCIATION
MEETING

The Minneapolis committee of arrangements desires to lay special emphasis upon the fact that the wives and daughters and sweethearts of the doctors of the state are expected to come to the meeting. A reception and luncheon at the Donaldson Tea-Rooms will be given to them on the afternoon of Thursday. Last year the attendance at the reception was over 200; this year many more are expected.

A smoker will be given for the men at the Minneapolis Club on Thursday evening.

INCREASED REQUIREMENTS

The University of Minnesota has taken another advanced step in the requirements for graduation for the medical department, and this step is one of vast importance.

Beginning with the college year of 1911, students of medicine in the University will be required to take two years of academic work, four years in the college of medicine, and one year in a hospital approved by the medical faculty; and, furthermore, no diploma will be granted until the graduate from the medical department has

passed a satisfactory examination on his year's work in the approved hospital.

The significance of such a preparation will be most apparent, perhaps, to the men who have gone into practice without such hospital training, and its effects will be most beneficent to the public, and especially to those who reside in sparsely settled districts, which hitherto have not commanded the best talent, but have been "experience-getting" grounds, and have been this at a cost not easily estimated.

SEMIMEDICAL REFORMS

The various medical and lay reforms which appear from time to time in the medical and lay press have been taken up by such staid weekly periodicals as the Spectator (London) and the Nation (London), and many of the communications are interesting. One of the most important of these topics is that of the need of reformation of the African and Portuguese slave-labor problems which have to do with the production of cocoa. Editorials, letters, and magazine articles are calling the attention of the public to the horrible conditions under which cocoa is gathered and sold. The slave question in regard to cocoa is evidently as bad as that represented to exist in the production of rubber on the Congo. It has been said that some of the largest firms that handle cocoa have refused to buy the product from African slave-owners until the conditions of production are changed. If the accounts we read are authentic it is time something should be done. Cocoa is an edible article, and unless its collection can be made under more hygienic methods, the call for that article may be reduced. Unfortunately, the dealers are not all of one mind, and if those who ignore the unhealthy conditions remain unmoved by the popular cry and clamor for reform, we shall still continue to consume cocoa without regard to how, where and from whom it comes.

The slave question in this connection is one to be fought out by the reformers who must carry convincing evidence to the public that some change is imperative. The London press is evidently in partial sympathy with the movement, but not over-enthusiastic as to the outcome. Parliament is slow about making radical changes in existing laws and as in many other legislative bodies more or less indifferent as to matters which concern in any way the public health. It is very much easier to stand a few thousand miles away from the scenes of conflict than to come in close contact with it and the possible

remedies. If the slaves of Africa and Portugal are sweated, abused and ill-paid under a contractor who is striving for quantity and money regardless of the abuse of human agencies, it is quite unlikely that a far-away public will concern itself with tales, however true or however overdrawn. The tide of progress in production of commodities is steadily advancing even though at times it seems to recede. If the evils exist that are complained of, a remedy will be found, but not, however, for years will a satisfactory condition prevail. The horrors of the slave state cannot be appreciated unless one is on the ground. The efforts of missionaries and reformers will be combated by the persistently ignorant and vicious business go-between. The brutalities that exist in tropical countries are not easily overcome. Tradition is an elusive evil, and we shall probably continue to eat and drink cocoa preparations regardless of consequences until time puts them right.

THE EDUCATIONAL NUMBER OF THE LONDON LANCET

In the issue of Aug. 27th the London Lancet has compiled a list of medical schools, hospitals, laws, and rules for the guidance of the student and practitioner. It is similar to the annual number issued by the Journal of the A. M. A.

In glancing over the number above mentioned, one is struck with the similarity of conditions existing in the United States and recalls the report of the Carnegie Foundation with the adverse criticisms omitted. It is very evident that there are many medical schools in Great Britain—too many, perhaps, for the population. The clinical advantages offered to students are enormous, and even though scattered over a fairly wide territory they are more accessible than those of the United States. England, Scotland, and Ireland have their independent schools and hospitals with medical education in each country as a separate entity. To the English-speaking student these schools and hospitals present unequalled opportunities because of the universal language familiar to Americans and English. This opportunity confirms the oft-repeated statement that the student can acquire and appreciate more medical knowledge from the Kingdom schools than the student who knows a smattering of a foreign language, yet who desires to study on the Continent for the prestige it may give him. In the crowded cities of London, Edinburgh, Glasgow, and Dublin, and other

lesser cities in the Kingdom, the clinical material is abundant and under such control or government that nothing is left to be desired. The surgeon, or the man who is in training for surgery, may not approve of the technic of the English surgeon, and if so he may learn better methods elsewhere. To know without question what is being said or what individual opinions are, can only be thoroughly digested by the student who knows the language. If the student is sufficiently educated in a continental tongue then he may study in France, Germany, or Austria, and, it may be added, Italy. Without a good groundwork in the language it is not possible to gain the requisite knowledge of medicine on the Continent. This statement may meet with some criticism, but any fair-minded man who attempts to follow the plan of going into a strange country to encounter a strange language, with all of its idioms, will come home with the conscious knowledge that he did not get all he expected. The foreigner who speaks a broken English realizes that he cannot at all times express the idea he would like to convey, hence he is in the same position as the unprepared student, unable to communicate clearly and intelligently. For this and other reasons the man who is preparing to go abroad for post-graduate work should consult the educational number of the London Lancet.

Surgery has made great strides in Great Britain in every particular, and many of the surgeons, particularly the younger ones, have profited by the work of their colleagues abroad. There is no hesitancy in saying that among the specialties and in internal medicine as much can be obtained from the clinics there as elsewhere.

The London Lancet, in this number, gives a general outline of the colleges and their teaching facilities and the names of the faculty who teach and attend in the hospitals.

The hospitals in various parts of the Kingdom have been the recipients of moneyed gifts that should be an example in America—of this more later.

A section of this same number is devoted to "The British Medical Man Abroad," in which is outlined the laws which govern the practice of medicine in all other countries. It is very evident that the average medical man in England does not do a large business: probably not more than one thousand or twelve hundred dollars a year. This is a general average. It is conceded to be above the average earnings of the American physician, yet the London Lancet warns the

practitioner that practice elsewhere is surrounded by stumbling-blocks and uncertainty. Perhaps the fault is in the man, perhaps in the same system of over-supply of doctors that is complained of in America.

The English have made many advances, however, that we must inevitably follow, namely, the education of the man for sanitary science.

In London there are organizations and schools that are now recognized as qualified to teach and to grant diplomas in this important branch of medicine. The Fellows of the Royal Institute of Public Health in 1905 numbered nearly 2,000. They created a central public health institution in London and have erected bacteriological, parasitological, and chemical laboratories for research and educational facilities, and are recognized by the University of London. The Royal Sanitary Institute is another organization incorporated with the Parkes Museum for the same end, to promote sanitary science. The General Medical Council, composed of thirty-four members, which has general control over educational and registration matters, has ordered that the course of professional study shall occupy at least five years, and this will doubtless be extended to six years to conform to advanced methods on the Continent and in the United States. The preliminary requirements are high, and the acquisition of the degree of M. D. is a long process. No reciprocity clause is incorporated in the English laws; and, in general, diplomas or certificates from other countries are not accepted in Great Britain or on the Continent.

CORRESPONDENCE

AN EXPLANATION

Minneapolis, September 5, 1910.

TO THE EDITOR:

Our attention has been directed to an article in your issue of June 15, 1910, entitled "A Pernicious Malpractice Suit," in which the following paragraph appears:

"Several efforts were made to have the plaintiff examined by a physician, but each time the engagement was broken. Finally the court ordered an examination at the office of the writer, fixing the day and hour. The appointment was not kept, and, as a result, the court dismissed the case."

It is possible that erroneous inferences may

be deduced from the foregoing, and, in justice to Mr. Schall, attorney for the plaintiff, and at his request, we beg to state that we were the attorneys for the defendant in the suit referred to, and that, upon our request, Mr. Schall readily assented that a physical examination of the plaintiff should be made by physicians to ascertain the nature and effect of her alleged injuries. The plaintiff herself refused to submit to such examination, and thereupon Mr. Schall agreed with us that an order might be made by the court—and one was made—compelling it. The plaintiff continuing obdurate, and refusing to appear in obedience to such order, the suit was dismissed by Mr. Schall, by stipulation, without order of the court.

Yours respectfully,

(Signed) VAN DERLIP & LUM.

MISCELLANY

FORTY-SECOND ANNUAL MEETING OF THE MINNESOTA STATE MEDICAL ASSO- CIATION

At Minneapolis, October 6 and 7, 1910
General Sessions, First Unitarian Church, 8th Street
and Mary Place

THURSDAY, OCTOBER 6, 9 A. M.

1. Prayer and brief address, Archbishop Ireland.
2. Address of welcome, Mayor J. C. Haynes.
3. Address, Governor Adolf O. Eberhardt.
4. Report of Committee on Arrangements.
5. Metastatic Gonorrheal Conjunctivitis, with Report of Case, Dr. W. R. Murray, Minneapolis; Dr. C. D. Conkey, Duluth, to lead the discussion.
6. The Orthopedic Treatment of Infantile Paralysis, Dr. Arthur J. Gillette, St. Paul. Dr. C. Eugene Riggs, St. Paul, to lead the discussion.
7. The Heart in Diseases of the Thyroid, Dr. James S. Gilfillan, St. Paul.
8. Intraspinal Injections of Magnesium Sulphate in Tetanus, Dr. Carl J. Holman, Mankato. Dr. J. M. Edwards, of Mankato, led the discussion.

OCTOBER 6, 1910, 2:30 P. M.

At First Unitarian Church

1. Annual Address by President, Dr. W. A. Jones, Minneapolis.
2. Sinus Inflammation and Effect on the Eyes, Dr. Thomas S. McDavitt, St. Paul. Dr. J. H. James, Mankato, to lead the discussion.
3. Bronchoscopy and Esophagoscopy, with Special Reference to Removal of Foreign Bodies, Dr. Arnold Schwyzer, St. Paul. Dr. W. Lerche, St. Paul, to lead the discussion.
4. How Shall We Treat Appendicitis after the First Forty-eight Hours? Dr. J. E. Moore, Minneapolis.

Dr. Archibald McLaren, St. Paul, to lead the discussion.

5. Death Certificates: A Review of the Subject as Viewed from the Post-mortem Room, Dr. H. E. Robertson, Minneapolis.

6. Management of the Puerperium, Dr. Frederick Leavitt, St. Paul. Dr. J. C. Litzenberg, Minneapolis, to lead the discussion.

7. Sexual Excitability in Men of Advanced Years, Dr. F. R. Wright, Minneapolis. Dr. John Rogers, St. Paul, to lead the discussion.

8. Pulmonary and Circulatory Complications Following Surgical Operations, Dr. E. H. Beckman, Rochester. Dr. Warren A. Dennis, St. Paul, to lead the discussion.

ENTERTAINMENTS

The ladies will be given a luncheon at Donaldson's Tea-rooms in the afternoon.

Smoker in the evening for the gentlemen at the Commercial Club.

Demonstration Session

OCTOBER 7, 9 A. M.

At Amphitheatre, Institute of Public Health and Pathology, University of Minnesota

1. The Treatment of Typhoid Fever with Special Reference to Dietetic Methods, Dr. C. W. More, Eveleth. Dr. Wade R. Humphrey, Stillwater, and Dr. R. N. Andrews, Mankato, to lead the discussion.

2. Signs Determining the Arrest of Pulmonary Tuberculosis, Dr. Edward L. Tuohy, Duluth. Dr. Walter J. Marcle, State Sanitarium, to lead the discussion.

3. Demonstration of Pyeolgraphy, Dr. W. F. Braasch, Rochester. Dr. F. J. Savage, St. Paul, to lead the discussion.

4. Asthenia Universalis Congenita, Dr. Chas. Lyman Greene, St. Paul.

5. Demonstration of the Serum Reaction in Syphilis, Dr. R. H. Mullin, Minneapolis.

6. Cardiac Insufficiency, with Demonstration of Methods for its Determination, Dr. J. W. Bell, Minneapolis.

7. Two Cases of Conservative Amputation, Dr. John H. Rishmiller, Minneapolis.

8. Demonstration of a Case of Re-operated Colles' Fracture, and a Case of Thrombosis of Mesenteric Vein, with Demonstration of Specimens, Dr. Arthur T. Mann, Minneapolis.

OCTOBER 7, 1910, 2:30 P. M.

At First Unitarian Church

1. Address: Further Advances in Neurologic Surgery with Demonstrations of Results Obtained, Dr. J. B. Murphy, Chicago.

2. Mixed Tumors of the Parotid Gland, Dr. E. S. Judd, Rochester. Dr. J. Clark Stewart, Minneapolis, to lead the discussion.

3. Pyelitis and Pyelocystitis in Infants, Dr. Walter Ramsey, St. Paul. Dr. L. A. Nippert, Minneapolis, to lead the discussion.

4. Extra-uterine Pregnancy, Dr. A. C. Baker, Fergus Falls.

5. Early Diagnosis and Operative Treatment of

Perforation in Typhoid Fever, Dr. George Douglas Head, Minneapolis. Dr. E. M. Darrow, Fargo, N. D., to lead the discussion, by invitation.

6. Sudden Death in Cardiac Disease, Dr. John Grosvenor Cross, Minneapolis.

7. The Last Fifty Cases of Extra-uterine Gestation, Dr. Archibald McLaren, St. Paul.

PROGRAM OF THE SOUTH DAKOTA STATE MEDICAL ASSOCIATION

Meeting at Hot Springs, September 27 and 28, 1910

Business Session

WEDNESDAY, SEPTEMBER 27, 2:00 P. M.

Meeting of the House of Delegates.

Report of the Secretary-Treasurer and appointment of committees.

Meeting of the Board of Councilors, 3:00 P. M.

Financial report of the Secretary-Treasurer.

General Sessions

WEDNESDAY, SEPTEMBER 27, 2:30 P. M.

Welcome on behalf of the city, Hon. S. E. Wilson, Hot Springs.

Welcome on behalf of Black Hills Medical Society, Dr. W. W. Wilcox, Hot Springs.

Response on behalf of the State Association, Dr. J. B. Vaughn, Castlewood.

President's Address, Dr. T. B. Smiley, Mt. Vernon.

Hay-fever, Dr. F. W. Minty, Rapid City.

The Doctor of the Future, Dr. J. L. Stuart, Viborg.

THURSDAY, SEPTEMBER 28, 9:30 A. M.

The Business of the Profession, Dr. A. H. Young, Pierre.

Some Avoidable Etiological Factors in the Production of Insanity, Dr. Max E. Witte, Clarinda, Iowa.

Tuberculosis, Dr. H. J. James, Custer.

Public Health and the State Laboratory, Dr. Mortimer Herzberg, Vermillion.

Laboratory Aids to Diagnosis, Dr. E. W. Jones, Mt. Vernon.

Cohnheim Methods in Diagnosis of Diseases of the Stomach and Bowels, Dr. F. A. Spafford, Flandreau.

Grit as Applied to Medical Practice, Dr. I. J. Sampson, Mellette.

THURSDAY, SEPTEMBER 28, 2:00 P. M.

Oration on Surgery, Dr. J. B. Murphy, Chicago, Ill. Cardiac Insufficiency, Dr. J. W. Bell, Minneapolis, Minn.

Things that the General Practitioner Should Know About Nasal Sinous Disease, Dr. W. L. Ballinger, Chicago, Ill.

The Anatomical and Clinical Relationship of the Nasal Accessory Sinuses to Diseases of the Eye, Dr. W. R. Murray, Minneapolis, Minn.

Review of Anatomy and Physiology of the Nose and Accessory Sinuses, Dr. E. F. Reamer, Mitchell.

FRIDAY, SEPTEMBER 29, 9:30 A. M.

Ectopic Gestation, with Report of Cases, Dr. C. E. McCauley, Aberdeen.

Eclampsia, Dr. H. W. Sherwood, Doland.
 Post-partem Hemorrhage, Dr. W. R. Ball, Mitchell.
 Lachrymal Obstruction, Dr. E. D. Putnam, Sioux Falls.

The Eye and the General Practitioner; Some Things He Should Know and Do, Dr. J. G. Parsons, Sioux Falls.

Thrombosis of the Cerebral Veins and Sinuses, Dr. C. A. Bower, Mitchell.

FRIDAY, SEPTEMBER 29, 2:00 P. M.

H. M. C. and Ether Anaesthesia in Surgery, Dr. B. A. Bobb, Mitchell.

Physiological and Pathological Processes in the Intestinal Canal, Dr. H. I. King, Aberdeen.

Angio Sarcoma of Kidney, Dr. W. G. Smith, Sturgis.

Fistula in Ano: Its Rational and Successful Treatment, Dr. Theodore F. Riggs, Pierre.

NEWS ITEMS

Dr. A. G. Maercklein, of Wisconsin, has moved to Glen Ullin, N. D.

Dr. Arthur L. Kusske, of Sanborn, was married last month in Minneapolis.

Dr. Edwin Olander, of St. Paul, has returned from a two months' trip abroad.

The Northfield Hospital Association has leased the I. O. O. F. hospital building for two years.

Dr. M. L. Hanson, of Hancock, was married last month to Miss Alfaretta Stinson, of Morris.

Dr. L. Q. Greeley, of Duluth, was married last month to Miss Grace Braithwaite, at Lincoln, N. Y.

Dr. H. B. Museus, of Beach, N. D., was married last month to Miss Iva Ziesenis, of the same place.

Dr. Isaac N. English, who formerly practiced at Motley, died last month at Ft. Ripley, at the age of 59.

Dr. R. C. Butz, of Pittsburg, Pa., has begun his work as assistant physician at the State Hospital at St. Peter.

Dr. E. Schons, of the St. Paul City and County Hospital, has become associated with Dr. C. I. Oliver, of Graceville.

Dr. George H. Spielman, of New Salem, N. D., was married in August to Miss Helen Berrier, of Flasher, N. D.

The Maternity Hospital of Minneapolis has just completed a babies' bungalow, an exceedingly attractive and valuable building.

The Hibbing city council has under consideration the building of a detention hospital, and the need of it is so great that one must be built soon.

The site for the tuberculosis sanitarium to be built by Duluth has been pronounced ideal by Professor Bass of the State University.

Dr. A. E. Hedback, a State University graduate, now located at Shield, Wis., was married last month to Miss Carrie Miller of that place.

Dr. H. B. Cole, of Franklin, has returned from New York, where he has been taking a special course in eye, ear, nose, and throat work.

Dr. Pierre R. Pinard, of Wagner, S. D., who has been taking a year's vacation, doing post-graduate work part of the time, has resumed his practice.

The building erected last year at Redfield, S. D., for a sanitarium has fallen into the hands of the physicians of that place and will be used for hospital purposes.

Dr. A. F. Schmitt, of Mankato, left for Europe last week to do special work in surgery of the abdomen. He will visit Berlin, Vienna, Berne, Leeds, London, and Paris.

The school board of Aberdeen, S. D., has arranged with the city board of health to examine every pupil who entered the schools of that place at the opening of the fall term.

Dr. D. E. McBroom, of Elysian, has sold his practice to Dr. F. A. Allen, of Trempealeau, Wis., and will move to Northfield, where he conducts a farm-school for feeble-minded boys.

Among the resolutions passed by the Conservation Congress, which met last week in St. Paul, was one favoring the establishment of Department of Health in the national government.

Dr. L. B. Baldwin, of Jamestown, N. D., has assumed charge of the Minnesota State University Hospital, and Miss Louise M. Powell, of Columbia University, has begun her work as superintendent of the nurses' training-school at the University.

The medical department of the University of Oregon has advanced its entrance requirements, and engaged graduates of Johns Hopkins and Rush to take charge of the departments, respect-

ively, of physiology and of anatomy, histology, and osteology.

PHYSICIANS LICENSED IN 1910 TO PRACTICE IN SOUTH DAKOTA

AT THE JANUARY EXAMINATION

Arnold, Thomas, Marshalltown, Ia.
 Brooks, John D., Sturgis, S. D.
 Chandler, J. F., Forest City, Mo.
 Cramblit, L. D., Murdo, S. D.
 Eagan, John B., Woonsocket, S. D.
 Geyerman, Peter T., Worthington, Minn.
 Hart, B. M., Blunt, S. D.
 Hennings, A. J., Everly, Ia.
 Hickman, G. L., Leola, S. D.
 Hagedorn, H. H., Alpena, S. D.
 Howell, C. F., Esmond, S. D.
 Kendahl, A. M., Jasper, Minn.
 Martin, H. B., Harrold, S. D.
 McAdams, J. E., Morristown, S. D.
 Melgaard, B. A., Volin, S. D.
 Morrissey, Richard J., Albee, S. D.
 Payne, R. H., VanHorn, Ia.
 Powell, C. B., Madison, Minn.
 Raber, D. D., Scenic, S. D.
 Schultz, E. J., White Rock, S. D.
 Stockdale, C. P., Loomis, S. D.
 Stewart, F. I., Wagner, S. D.
 Spear, John F., Trent, S. D.
 Thomas, H. H., Edgemont, S. D.
 Selman, R. J., Blunt, S. D.
 Wilson, F. D., Meadow, S. D.

AT THE JULY EXAMINATION

Ahern, J. J., Gregory, S. D.
 Binger, Henry E., Redfield, S. D.
 Bostrum, A. E., DeSmet, S. D.
 Bushnell, W. F., Elk Point, S. D.
 Chapman, W. S., Raymond, S. D.
 Clegg, E. G., Tea, S. D.
 Fairbanks, C. L., Grand River.
 Fessenden, C. L., Farmer, S. D.
 Flett, Chas., Milbank, S. D.
 Formis, J. K., Lennox, S. D.
 Ground, H. T., Ashton, S. D.
 Kimball, A. P., Colome, S. D.
 Kruidenier, A. B., Chicago, Ill.
 Leighton, I. W., Scotland, S. D.
 McIntyre, P. S., Bradley, S. D.
 McWhinney, B. P., Union City, Ind.
 Milburn, T. H., Wessington, S. D.
 Rogers, J. T., White Lake, S. D.
 Sherwood, H. H., Humbolt, S. D.
 Smith, R. E., Chelsea, S. D.

Snyder, K. A., Melette, S. D.
 Sword, H. R., Chicago, Ill.
 Swofford, E. W., Sturgis, S. D.
 Volin, H. P., Volin, S. D.
 Wheeler, A. J., Stratford, S. D.
 York, William, Williamson, W. Va.

[Notice.—A physician who offers his practice for sale through these columns is entitled to full information concerning an applicant, and unless this is given a reply may not be received, because a physician who sells the good-will of his practice is in duty bound to sell to a man worthy the confidence of his former patients, and to no other man will he make known his intention of changing his location.]

BOOKS AND INSTRUMENTS FOR SALE

Surgical instruments, operating-table, and medical library for sale. All in good condition. Address D. M., care of this office.

FOR SALE

Complete outfit of instruments and chair-table; also a library of about one hundred and fifty volumes, just what a doctor starting out would need. For information, write or call on Mrs. MacNamara, 111 W. Isabel St., St. Paul.

FOR SALE

An Allison Specialist's Cabinet, Style 69D, with swinging spray-heater (in use only six weeks). Also a Betz six-bottle, double-valve nebulizer and pump. Enquire of or write Mrs. Mary Giltison, 709 Delaware St. S. E., Minneapolis.

SUPPLY WANTED

A locum tenens is wanted in a small village on Lake St. Croix for twenty-five days beginning Sept. 20th. For particulars address Dr. G. H. Burfiend, Afton, Minn.

FOR SALE

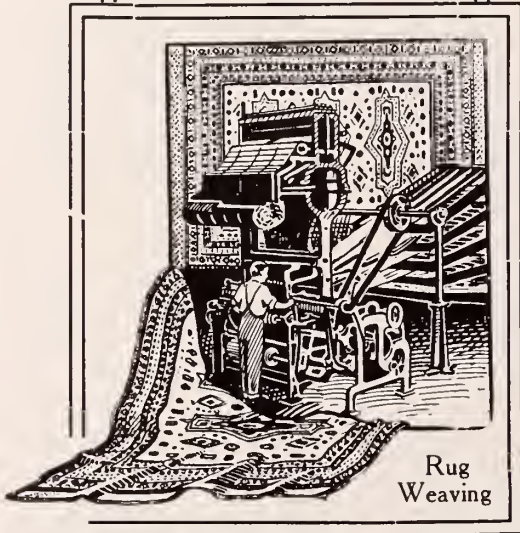
A practice, averaging from \$3,400 to \$3,800 for the past 16 years, is for sale for \$1,500 cash, and includes office fixtures, in one of the best cities of southern Minnesota. Good roads, schools, and churches; rich farming community; mixed population, but my practice is mostly German and American. No bad debts; splendid hospital facilities. I will not sell to an incapable physician but to a fair average man. I have the practice and can deliver it. Will stay as a partner for a while. The opposition is not strong. To a man of family the educational facilities are the best in the state. Address C. O., care of this office.

FOR SALE

An unopposed \$4,000 cash practice in a town of 600 in southern Minnesota. Complete office equipment including microscope, eye-case, x-ray, air-tank, operating table, instruments, office furniture, etc.; also driving team, buggy, cutter, harnesses, etc.; \$1,000 takes everything at once. Address M. M., care of this office.

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SIZE 9x12 feet	65.00

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PUBLISHER'S DEPARTMENT

ANTERIOR POLIOMYELITIS CONTAGIOUS

It may be of interest to learn that the Connecticut State Board of Health has recently announced that in its opinion anterior poliomyelitis or infantile paralysis is very contagious and that a throat spray or gargle of some antiseptic solution is the most effective means of preventing the spread of this disease which may be transmitted by the healthy as well as the sick. If that is proven to be the case, it would be well for physicians to encourage a free use in all families of some reliable and ethical preparation that is effective and at the same time so pleasing and attractive in flavor that it will not be opposed by the children, and in our opinion, Lavioris fulfills these requirements to perfection because in addition to the other antiseptics, you get the purifying and stimulating action of the zinc chloride on the mucous surfaces, which renders the tissue firm and healthy and at the same time it is so office fixtures, in one of the best cities of southern attractive in flavor.

SWEDISH MOVEMENT AND MASSAGE

Several years ago a dozen of the leading physicians of Minneapolis took it upon themselves to establish an institute where the Swedish movement and massage could be given properly by men and women scientifically trained. Mr. Th. J. Tomsen was engaged as its conductor. When the institution was thoroughly established and the needs of the profession fully met, the Institute was taken over by Mr. Tomsen, and it is now a Swedish institute in fact, containing the best appliances obtainable, and with men and women assistants who are experts and can work under the direction of physicians and to their complete satisfaction.

The Institute has light cabinets, electric baths, shower-baths of all kinds, Swedish movement apparatus, and all the appliances necessary to give scientific tretment.

Mr. Tomsen has the confidence of the profession, and also the regular patronage of nearly one hundred of the leading physicians of Minneapolis. The Institute has commodious quarters at 122 Sixth street south, Minneapolis, and will always be glad to have physicians inspect the rooms or the work of the manager and his assistants.

HIGH-GRADE FURNISHINGS

Our readers have no doubt read the announcements made in our advertising columns during the past few months by the New England Furniture & Carpet Co., but perhaps few of them are aware how large and fine is the line of goods carried by this house. There is little to be desired for any room in any house that the company does not supply. Their line of Oriental rugs is unsurpassed by any exclusive rug-house in the Northwest, and their line of fine furniture is likewise unequalled. The smallest article of kitchen furniture may be also found in their stock, and their office furnishings are equally complete. But, above all, their prices are right, and their dealings satisfy customers. Whether one wants to buy a big thing or a little thing in their line, he will be welcomed to their store, or his correspondence will receive the best attention.

ASSOCIATION AND THE NORTHWESTERN LANCET

INVESTMENTS

The Wells & Dickey Company of Minneapolis carry a financial card in our advertising columns, and we take pleasure in assuring our readers that this company's standing is as high as that of any bank in the Northwest. The members of the company are honorable business men who are universally respected in Minneapolis, and no one need fear to place the utmost confidence in them in any financial matter.

THE ANTITOXIN TREATMENT OF DIPHTHERIA

Again are we nearing the season when the problem of diphtheria and its treatment must be met and solved. The writer of this paragraph is forcibly reminded of the fact by the receipt of a modest but important brochure of sixteen pages bearing the title "Antidiphtheric Serum and Antidiphtheric Globulins." A second thought is that here is a little work that every general practitioner ought to send for and read. Not that the booklet is in any sense an argument for serum therapy. It is nothing of the kind. Indeed, the efficacy of the antitoxin treatment of diphtheria is no longer a debatable question, that method of procedure having long since attained the position of an established therapeutic measure. The pamphlet is noteworthy because of the timeliness of its appearance, the mass of useful information which it presents in comparatively limited compass, and the interest and freshness with which its author has been able to invest a subject that has been much

written about in the past dozen or fifteen years. Its tendency, one may as well admit, is to foster a preference for a particular brand of serum, but that fact lessens not one whit its value and authoritative-ness.

Here is a specimen paragraph, reprinted in this space not so much to show the scope and character of the offering as to emphasize its helpful tone and to point out the fact that its author was not actuated wholly by motives of commercialism:

"Medical practitioners have learned that, inasmuch as the main problem presented in the treatment of a case of diphtheria is the neutralization of a specific toxin, the true antitoxin cannot too soon be administered; moreover, that, antitoxin being a product of definite strength, a little too little of it may fail when a little more would have succeeded—hence larger or more frequently repeated doses are becoming more and more the rule. One more point: if the medical attendant is prompt, as he must be, and fearless, as he has a right to be, the full justification of his course will hinge upon the choice of the best and most reliable antidiphtheric serum to be had; for while there is little or no danger of harm ensuing from the use of any brand issued by a reputable house, the best results—which may mean recovery as the alternative of death—can only be hoped for from the use of the best serum."

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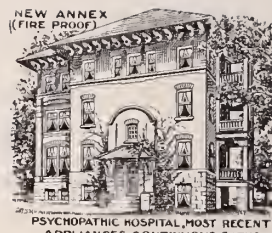
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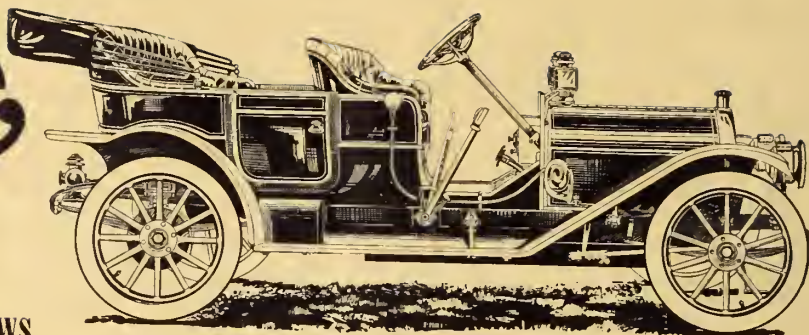
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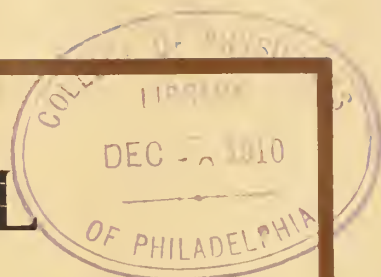
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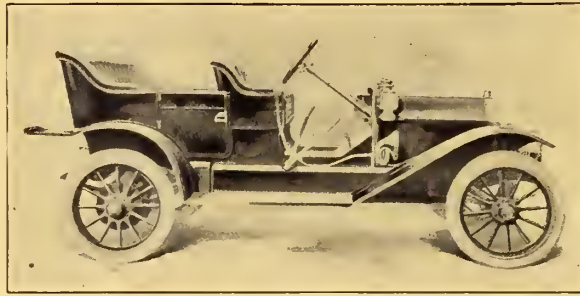
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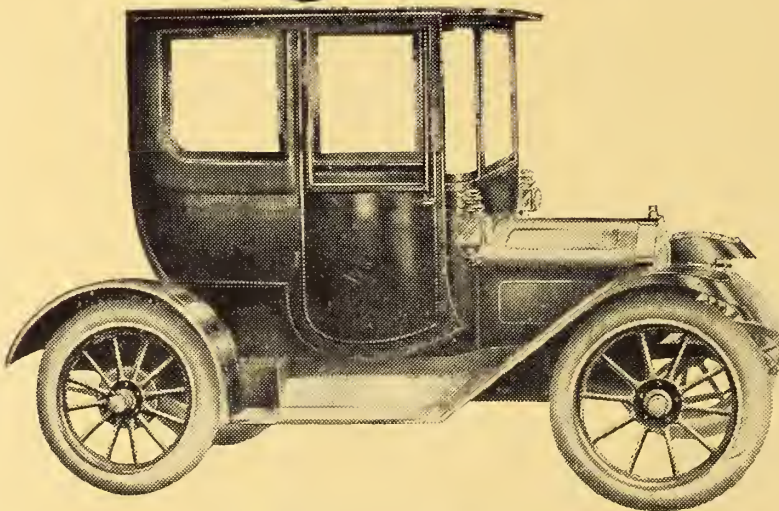
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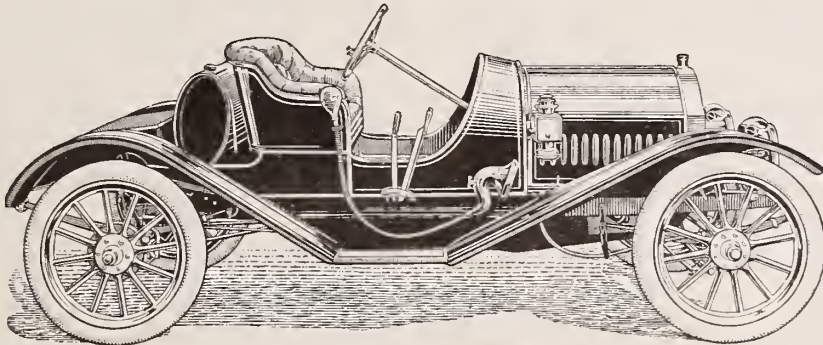
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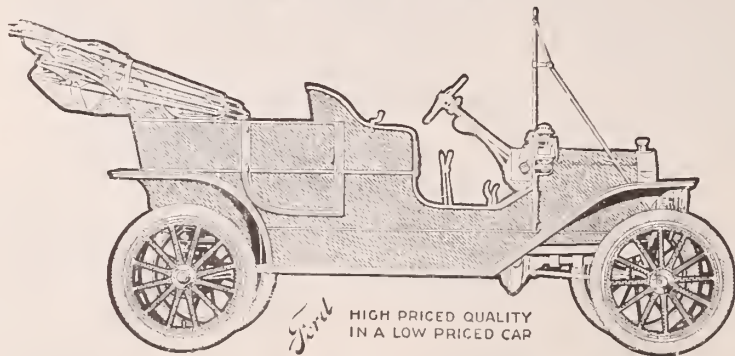
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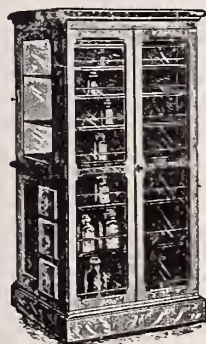
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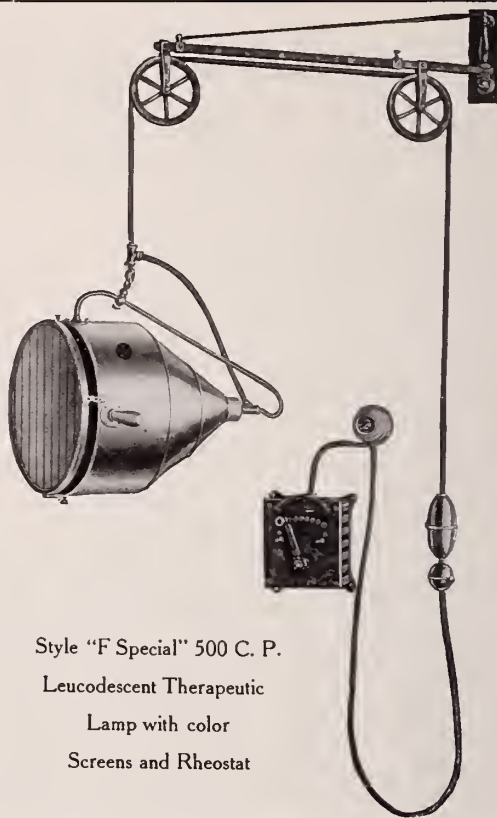
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THE JOURNAL OF THE MINNESOTA STATE MEDICAL ASSOCIATION AND THE NORTHWESTERN LANCET

ESTABLISHED 1870

PUBLISHED TWICE A MONTH

VOL. XXX

OCTOBER 15, 1910

No. 20

THE STATE MEDICAL ASSOCIATION AND ITS RELATIONSHIPS TO THE PROBLEMS OF THE DAY

PRESIDENT'S ADDRESS*

BY W. A. JONES, M. D.

MINNEAPOLIS, MINN.

It is a customary duty and a pleasure to one, who has been elevated into the highest office of this organization, the presidency of the Minnesota State Medical Association, to express thanks for such an honor. This I do in all sincerity, as my predecessors have done before me.

It had been my plan to formulate an address in which the discussion of a topic of common interest could be presented to you. I had hoped to take up the subject of acute infectious diseases, in which the nervous system was involved, or to invite you to study with me the latest theories concerning the cerebral cortex. After many discussions and arguments with individuals and committees, the subject resolved itself into one more common and perhaps less popular, namely the relationship of the State Organization to the problems that daily present themselves.

The program, to which you are to listen, suggests the first troublesome problem, viz.: how to *secure* a live interest in the formation and discussion of our yearly program. It was decided by the program committee that men in the country should be asked to make up the body of the program. It was decided further that men who lived in the city, in which the meeting was to be held, should participate only in the discussions. You see before you the result. Ten men from Minneapolis have presented pa-

pers and but twenty-one men from other towns are on the program—eight of whom are from St. Paul.

Any attempt to criticize the program committee will fall flat, when it is known that men from all over the state were invited to read papers or conduct clinics, but declined on one pretext or another. Some of you may have been overlooked and your feelings may have been hurt by this seeming omission, but the fact remains that a considerable number of men refused, declined or excused themselves. Under the circumstances, the men who are residents of Minneapolis filled the breach. This is unfair and puts the burden on the few when any number of capable men outside of the twin cities could have exerted themselves, if they would.

It may be that the men who declined felt they had nothing new to offer. To this argument there is but one answer: over-modesty or indifference. The man who is the busiest has the most time for work of this sort, but it is difficult to convince him of that point.

The criticism offered here is not a carping one, but one of vital interest to the organization.

The past year has been a progressive one, not in one line, but in many in which all physicians should show an interest. Yet as an illustration of our inability to accomplish many things, you will recall the failure of the medical profession to establish a department of health in Washington. A tremendous opposition has been

*Delivered at the forty-second annual meeting of the Minnesota State Medical Association, held at Minneapolis, Minn., October 6th and 7th, 1910.

aroused from all parts of the United States. Much of the cry against a department has been from those who are engaged in *unethical*, fraudulent or faddish forms of treatment and from ignorant or wilful antis, who constantly clamor and chatter, when any new suggestion is up for consideration. Some of these opponents may have been sincere in their attitude, but their lack of knowledge of scientific facts, or even of common sense ideas permits them to take and maintain wholly unreasonable positions. Yet they have succeeded in creating a suspicion that is eagerly swallowed by the wavering crowds who rejoice in any excuse that suggests procrastination. This class will wait and argue until their emotions and impulses finally guide them into the pathway of right. Painful impressions or disastrous experiences alone will convince them. For such we must exercise tolerance, and continue in our efforts to educate them.

The opponents who are engaged in fraudulent enterprises and have reason to feel that they may be deprived of unholy means of livelihood and their imagined individual rights assailed, need give us little concern. Our work is for the masses, who need protection from ignorant and unlawful persons, who make it their business to profit by the misfortunes of others.

In spite of their outcries, many fraudulent men and concerns have been driven from the field of operation and in time others will fall. For this reform we owe our thanks to the lay press, which reaches the better classes. I do not refer to muck rakers, but to those who in endeavoring to enlighten and educate their readers have presented to them clear and convincing reasons for the suppression of quackery.

The result has so far been gratifying, but the educational movement must go on relentlessly, until the more ignorant have been shown what is for their advantage and protection.

This purpose can best be served by educating children in the fundamentals, in order that the subsequent training of their minds may make them think and reason in a logical manner. If we attempt this method of education and reform we must suspend our criticism of newspapers that cater to the low class of advertising that is so much in evidence. We must quietly endeavor to educate the readers by presenting to them something helpful. The elimination of indecent and suggestive advertising, "personals," and reading matter of this sort can only be accomplished by consultation and co-operation with

newspaper men. If our arguments are presented to them fairly and without malice, it ought not to be difficult to persuade the editors of newspapers, who are usually fair and right minded, that clean and wholesome semi-medical matter, prepared by the proper authorities, is more profitable. As a matter of fact, the smaller advertisements are not a paying proposition and many editors and proprietors have expunged these obnoxious advertisements from their columns when they know that danger and disaster to the reader is the outcome.

In order to make our arguments effective, we must present sound reasons, based upon experience and proof. The average doctor is addicted to the "hammer and tongs" method and his arguments show personal feelings, rather than sane conclusions. The preparation of reading matter that is interesting and educational, can be taken up by a journalist, who will devote himself to the study of medical questions, health problems and institutions. A press agent who will inaugurate this form of campaign is urgently needed. The great difficulty is in the selection of the man, who combines the qualities of journalist and sanitarian. He must be able to go into a laboratory, statistical bureau or school and study and familiarize himself from the foundation for his work.

If the medical profession of the state had such a man, the work of its various departments would be advanced. We are still harboring illegal practitioners in our ranks and these must be cleared away before we can expect to abolish the foolish fads outside. We must clean our own house and make it ready for inspection. A press agent would be helpful in this work. He could also assist the State Board of Medical Examiners, who can suggest, but cannot act without the backing of the profession. This body is also without adequate funds and cannot command the attention or support of the proper legal authorities.

The exposure of fraudulent remedies advertised by flamboyant fakers has been a helpful, educational adjunct, but so far the exposures reach the medical profession and not the laymen, where they are most needed. The council of pharmacy of the American Medical Association has exposed, and continues to expose impostors, but the medical profession does not appreciate the extent or value of this work. If twenty per cent of the medical profession would take an active interest in this reform movement, they could do an immense amount of good. The

difficulty in reaching the lay reader is almost insurmountable, as the lay press does not care to expose its advertisers. It can be done, however, by the physicians. Towns and cities are frequently inundated by quack literature and fake remedies, yet nearly all of them have been exposed in the "Journal," but as the exposures reach only the profession, the faker calmly plies his trade. When such men go into small towns and create havoc and disorder, a check is needed and only the doctor can accomplish it by tactful means. Do not abuse the faker, but educate the people.

The so-called National League for Medical Freedom is controlled largely by manufacturers of fraudulent remedies and those who exploit unscientific theories, but the opponents of vaccination and vivisection and the exponents of fads and cults are in sympathy with it. To meet their arguments we must give the people clear proof of their false claims, based upon actual experience. The propaganda for freedom was not organized simply to oppose the establishment of a National Department of Health, but to fight, not only the American Medical Association, but the medical profession all over the country.

Some lax medical journals originated the term "medical trust" or "doctor's trust" and it was greedily appropriated by the lay enemies of the medical profession. To relieve us from this stigma, it is our duty to secure from the legislators protection against quacks, charlatans and nostrum makers who take advantage of and swindle the sick. Ignorance, indecision and fear on the part of lawmakers is responsible for the present unenviable condition that so widely prevails.

The legislative committee of the State Medical Association, with committees from other and allied organizations, must begin a vigorous but dignified campaign. Committees from the State Society, the State Board of Health, the State Sanitary Conference and the Alumni Association of the College of Medicine and Surgery of the University of Minnesota, representing the State University and additional representatives from the State Board of Control, the State Board of Medical Examiners, the Live Stock Sanitary Board, the State Association for the Suppression of Tuberculosis, the State Pharmaceutical Association and the Department of Labor can, in conference, present strong arguments for legislative consideration, and I would advise that such an organization be effected. A resolution, in-

troduced into the House of Delegates last year, was a good beginning. This year the Legislative Committee should be enlarged to meet the additional requirements. We need and must have willing and influential workers, if we expect to accomplish the necessary reform measures.

We must elevate the profession of medicine, devise laws to protect the sick from impostors, increase the funds of the State Board of Medical Examiners and make their work more effective and secure a substantial increase in the appropriations for the State Board of Health, that it may extend its work and endeavor to bring Minnesota up to the standards held by other states.

Medical inspection of the pupils, students and teachers in public schools and universities has been a success in other countries and in many cities in our own country, and in a few towns and cities in Minnesota, but it has not been universally adopted. That it is of the greatest value and protection, there is no doubt. To make it thoroughly effective and financially possible the committee on legislation is urged to bring it before the legislature. The direction of medical inspection of schools should be placed under the State Board of Health and a suitable expert engaged to supervise the work all over the state. Local health boards or boards of education could then be held accountable for its success or failure.

A committee, however large, cannot do this unless the state association is backing it with moral support. We must take a hand in politics to the end that legislators may appreciate our needs and respect us as a profession and if we pay strict attention to our own professional work and cease fighting other and alleged methods of cure, we will be more likely to accomplish our desired object. We must present scientific reasons and arguments, based upon experience; not incrimination, based upon hearsay.

One more suggestion in relation to our legislative work—Minnesota has been invited to send a delegate, who becomes a member of the National Legislative Committee. I have appointed Dr. W. L. Beebe, of St. Cloud, as our representative, and I would suggest that provision be made for his expenses and, if necessary, some compensation for time spent in this important duty.

I cannot close this address without an appeal for your interest and co-operation in the work of our state institutions. The hospitals for the insane are recognized as model institutions, our school for dependents and defectives and the

state reformatory, and the state tuberculosis hospital contain rich and valuable material for study, but the medical profession is strangely indifferent to their work. These institutions should be visited by medical men throughout the state, and a more intimate appreciation of the methods employed there should be secured.

The Medical School of the State University should be your pride. An investigation into its method of teaching and its standing, resulting in its high ranking as compared with other medical schools, should prompt you to visit its various departments. Your student cannot do better in the way of training than in our University Medical School. Anything that you can do to

promote its continued success will rebound to your credit.

The University Hospital that will ultimately furnish clinical material for graduate and undergraduate study must have your hearty support.

Minnesota, as represented by the medical profession and their standards of teaching and of practice, is destined to occupy a high place in the United States. For this and other reasons may the profession be unified by a dignity and earnestness of purpose to accomplish the ethical, scientific and co-operative work that has been laid upon it.

OPENING SURGICAL CLINIC IN THE UNIVERSITY OF MINNESOTA

BY JAMES E. MOORE, M. D.

Chief of Surgical Clinic in the University Hospital.

MINNEAPOLIS

Minneapolis, September 15, 1910.

Gentlemen:—

It shall be my duty throughout the year to impress upon you the fact that operations are not all of surgery, and to that end I shall lay special stress upon diagnosis. If I can get you to understand when an operation is indicated, it will be comparatively easy for you to learn how to perform the operation, because the mechanical is really the easiest part of surgery, and I hope you will learn to consider it the least important part, for while it is very necessary for the welfare of the human race that we have skilled operators, it is much more important that we have skilled diagnosticians. Most of my clinics throughout the year will be made up of demonstrations of the patient before, and after operation, rather than of the operations themselves.

Today we have abundant material, and I select just one case for operation, not because the operation is a grave one, but because it affords me opportunity to demonstrate the technic. This patient is a widow about thirty years of age who is obliged to earn a living for herself and children by hard work. She has had repeated mild attacks of appendicitis, none of them dangerous, but all of them for a time disabling and leaving her with a constant pain and soreness in the right side of the abdomen, so that she felt that she could no longer earn her living without relief.

You hear so much of appendicitis from various teachers in the course of the year that I shall say nothing to you about that, but shall be content to demonstrate the technic which I wish you to take as an illustration of the technic of operations in general.

This opening will be a very small one, but the dangers to the patient are just as great as if it were a large one, because the old idea that the danger of infection in the peritoneum was due to the entrance of air is no longer tenable. The danger lies in the hands of the operator, and the instruments, sponges, ligatures, and dressings used, and it is just as important that you exercise every precaution in making a small opening as it is in making a large one.

I shall endeavor in each instance to point out to you the surgical anatomy of the parts involved from a practical standpoint, and to give you the pathology of the conditions found. There are no vital organs involved in this operation, but it behooves you to bear in mind the anatomical structures in order that you may make your opening through the abdominal wall along natural lines of cleavage, so that the patient will be in no danger of a paralyzed or weakened abdominal wall in the future.

I make a two inch incision at right angles to an imaginary line drawn from the umbilicus to the anterior superior spinous process of the

ilium, at the junction of the middle with the outer third of that imaginary line, about one-third of the incision being above this imaginary line and two-thirds below. This incision is parallel with the course of the superficial nerves of the part and with the tendon of the external oblique. Now, as my assistant holds this wound open with a small retractor, you see exposed the deeper layers of muscle running crosswise to the incision. With the handle of my knife I quickly split these muscular fibres longitudinally until I reach the deep fascia, which is closely connected with the peritoneum. This fascia is grasped by two hemostatic forceps, and a small cut made between them which extends through the fascia and the peritoneum; and at once you see the yellow omentum pushing up through the small opening. I now introduce my gloved finger and stretch this opening, and my assistant introduces a small retractor, which gives me command of the situation. It is a mistake to introduce the finger or an instrument and grope about in the dark for the appendix because by following plain anatomical landmarks it is just as easy to locate the appendix in a case like this as it is to locate the nose on your face. Between my thumb and finger I grasp the first piece of bowel which presents itself, and find that it is of small caliber, and that there are no longitudinal muscular fibres presenting, and I conclude that it is the ileum and not what I am looking for, so I return it to the abdomen, and with my gloved finger find another bowel nearer to the outer wall of the abdomen, which I bring to the surface and upon which you see the longitudinal band which marks it as a part of the large intestine, and from its location we conclude that it is the ascending colon or cecum. Now, if you follow this band, which is as plain as day, downward over the end of the cecum you are bound to reach the base of the appendix, because it is always located there. As you see in this case, the base of the appendix presents itself, and by grasping it with an instrument I quickly turn the appendix with the meso-appendix out through the wound. I could tie off the whole of this meso-appendix in one ligature, but it has an extra amount of fat in its makeup, and I deem it wiser to divide in about three parts, tying each part separately but with a continuous ligature of catgut, which brings me to the base of the appendix. I now make one final bite with my needle, going into the walls of the cecum, in this way making sure that all of the blood-vessels leading to the appendix are ligated. A neglect of

this last precaution has been the cause of post-operative hemorrhage. I now tie a catgut ligature tightly around the base of the appendix, and after stripping the contents of the appendix toward its apex with an artery forceps and holding it there I cut the appendix across a short distance outside of the ligature, the stump having been anchored by means of another artery forceps in the hands of my assistant. I now wipe off the end of the stump and sterilize with carbolic acid followed by alcohol. A purse-string of catgut is applied all around the base of the stump a short distance from it, and the stump quickly invaginated. The part is gently wiped with gauze and dropped into the abdomen, and we are ready for the closure of the wound. Before beginning the closure I wash my hands carefully because I have just made an opening into the lumen of this appendix, which always contains bacteria, and I wish to take no chances of leaving some of those bacteria on my gloves to be carried into the peritoneal cavity. I now close the abdominal wound, layer by layer, with running stitches of iodized catgut. The skin is closed with a button-hole stitch of iodized catgut of light weight, and a sterile dressing applied, which will remain until the patient gets out of bed, six or eight days from now. This closure insures primary union and leaves no stitches to be removed, as that part of the catgut underneath the skin will be absorbed, and that outside will rub off.

This next patient you see has a fungus growth covering the whole surface of the lower lip. He has had an open sore on this lip for about one year, and of late this mass has been developing much more rapidly because of some very irritating applications made. From its appearance there are only about two possibilities: one is syphilis, and the other malignancy. In this case you will consider syphilis very seriously because the patient is but thirty years of age, and malignancy is comparatively rare until a later period in life, but he has had the therapeutic test of iodide of potassium without effect, and microscopic section shows this to be an epithelioma. You can feel enlarged lymphatics underneath the chin and along the side of the neck.

I wish to warn you against making a snap diagnosis, no matter how characteristic the appearance of the condition may be, but to advise you always to do as has been done in this case,—resort to therapeutic, laboratory, and whatever other diagnostic agencies you have at your command to enable you to arrive at a positive diag-

nosis before advising operation. This has all been done in this case, and the diagnosis is positive, and the patient will be operated on the next clinic day. The operation will be a very radical one, because all operations for malignant growths must be radical, otherwise they are not worth while. The whole of the lower lip will be removed, and all the lymphatics dissected from the neck, a new mouth being made by plastic operation.

Now that the patient has left the room I can state to you that this man will surely die within the next year, because of his age and the extensive secondary involvement. Our very best results in the operative treatment of cancer are obtained in this location, the only reason being that it is possible to make a very early diagnosis. When late, the prognosis is grave, no matter what the location of the disease, and the younger the patient the greater the danger of recurrence. When a patient comes to you with an ulcer on the lower lip which refuses to heal, you should never write a prescription and turn him away, but should make every effort to arrive at a positive diagnosis as quickly as possible, because there is always great danger that the condition may be malignant, and if you recognize it early and perform a suitable operation the chances of his permanent cure are very good indeed. I have not questioned this patient carefully to find out why he comes to us with the disease so well advanced, and I am sorry to say that it is very often the fault of physicians who have had the case under observation, because they have neglected to make a positive diagnosis and insist upon the gravity of the condition, urging early operation. The only object in operating upon this man is to relieve his present deplorable condition, which makes him a burden to himself and everybody around him, and to prolong his life.

The next patient, a girl seventeen years of age, is of exceptional interest from a diagnostic standpoint because her condition is a rare one, and there are many misleading features in the history as given to us. As you see, a tumor presents in the right inguinal canal. She states that one year ago she was taking physical exercises for the relief of a curvature of the spine when this tumor and another one in the same location on the other side presented; that they both disappeared for a time; and that this one returned later and has remained ever since. The misleading part of the history is that pertaining to the curvature of the spine. My first

thought when I heard the history read was that the patient had a tuberculosis of the spine with a psoas abscess, but upon examination I find that there is very little if any rigidity of the spine, the slight hesitancy in stooping forward being doubtless due to the pain caused by the pressure upon this tumor, which is quite sensitive. A number of the spinous processes in the middle and lower dorsal regions are rather prominent, but I have no doubt that they have always been so in her case. In other words, I think the seeming defect in the spine is a congenital condition and normal in her case. As the patient lies flat upon her back you see the popliteal space of this affected side comes down to the table without causing a curving forward of the lumbar spine. If this were psoas abscess there would be a contraction of the psoas muscle, and the thigh would be flexed on the body, so that when the popliteal space was pressed upon the table there would be marked arching forward of the lumbar spine. The patient has no temperature, and her appetite and general health are good, so that I feel we are safe in excluding tuberculosis. If we could depend upon the accuracy of this patient's observation and statements, and could know to a certainty that she had swellings appear in both inguinal regions after unusual exercise, the diagnosis of hernia would be unquestioned, but I find upon questioning her closely that her recollection and observation are rather hazy. This tumor is evidently in the right inguinal canal, projecting forward, as you see, and is quite sensitive to the touch. It is hard, rather elastic, and gives a dull percussion-note. There has been no special trouble with the bowels. If she had hernia containing intestine she would have tympanitic resonance, and would give a history of intestinal disturbance, because, according to her statement, this tumor has been permanent since its second appearance. Because this tumor is located in the inguinal canal it is not safe to jump at the conclusion that it is a hernia, for it gives no symptoms characteristic of hernia beyond its location. Sarcoma is not an unusual occurrence in patients of this age, and sometimes develops in this location. It is true that it would not develop suddenly, but I find that patients' observations concerning the time of appearance of swelling are very unreliable. They will oftentimes say that a lump in the breast, or elsewhere, has appeared suddenly, when we know from experience that it must have been there for a considerable length of time, and they did not discover it until after it

had been present for some time. If this lump did develop suddenly, as the patient states, it is in all probability a hernia and is made up of omentum. A hernia, the contents of which is omentum, may remain incarcerated for a long time and give comparatively little discomfort, but, sooner or later, it is liable to become inflamed or constricted, when acute symptoms will develop. It seems to me, all things considered, that the most probable diagnosis in this case is incarcerated omental hernia. She will be operated upon the next clinic day.

The next patient is a woman, eighteen years of age, who discovered a lump in her breast a short time ago. It is very evident, however, that it has been there a considerable length of time. I want each one of those present to examine this tumor carefully because it is a typical case of benign growth in the breast. It is very important to be able to differentiate between benign and malignant growths in this locality, because about eighty per cent of all growths of the breast are malignant. The main point in diagnosis of tumor of the breast is to differentiate between benign and malignant growths. A refinement of diagnosis as between the different varieties of benign growth is very interesting, but not highly practical.

This patient's mammary gland is large and is covered with a goodly layer of fat, so that you cannot see the growth. This is doubtless why she did not recognize it until a short time ago, but when you lay the flat of your hand over the breast and press it toward the thorax you feel a hard, smooth, elastic lump, which is readily movable in all directions, and is not sensitive or painful. It is not attached to the skin, and there are no enlarged lymphatics in the axilla. If this were a malignant growth it would be more irregular in outline, would be harder to the touch, and would not be so freely movable, particularly in the direction parallel to the fibres of the pectoralis major. A malignant growth as well developed as this one is would probably be attached to the skin, and would be accompanied by enlargement of the lymphatics in the axilla. It might or might not be painful. Bear in mind that pain is not a characteristic symptom of malignant growths. Sometimes they are excruciatingly painful, and other times absolutely free from pain. On the other hand, some benign growths cause the patient to complain bitterly of pain. Whether it is a real pain or an imaginary one is immaterial, because if we were to lay

stress upon this symptom in differential diagnosis either would be misleading. This tumor, we conclude, is unquestionably benign, because of the age of the patient, being only eighteen years, and because it has all of the symptoms of a benign growth and, on the other hand, lacks the characteristic symptoms of a malignant growth. This tumor will be removed at the next clinic hour through a small incision radiating from the nipple, so as not to destroy the milk-ducts, and we are safe in promising her that there will be no return of the growth.

Finally, I wish to impress upon you the importance of a careful examination of every lump in the breast because so large a percentage of them are malignant, and the only hope of the patient lies in an early operation. An accurate diagnosis is imperative in these cases, because a simple operation, such as would be performed on this patient, would be very bad surgery on a malignant growth. With a malignant growth of this size it would be necessary to amputate the whole breast and clean out the axilla thoroughly. Even when you feel confident that you are removing a benign growth it is your duty to have a careful microscopic examination of the specimen made, and, if you should find that there are evidences of malignancy, a second and radical operation should be performed. Never allow a woman with a lump in her breast to leave your office without telling her the importance of accurate diagnosis and prompt treatment. A doctor who writes a prescription for a local application for a lump in the breast is betraying the trust reposed in him by the patient.

LETTERS TO A NEUROLOGIST

Joseph Collins, of New York, supposes himself to receive a letter from a woman who has been a chronic invalid satirizing the bedside manner of physicians. He answers her that dress and manner do not contribute much to a physician's usefulness. The prosy accounts by patients of their illness are quite as disagreeable to the physician as his manner may be to the nervous invalid. Patients really ill do not care for culture in the doctor; what they want is to have him relieve them, and at once. The patient demands infallibility, and the capacity to give generously; the profession demands conformation to ethical principles.—Medical Record.

A CASE OF TRIPLETS*

BY HENRY McGUIGAN, M. D.

MAZEPPA, MINN.

I was called to attend Mrs. R. during confinement, in May, 1905. I found a woman 42 years of age; small in stature; health always having been good, except for slight dyspnea, due to a valvular lesion; married 15 years. She gave a history of a premature delivery four years previously and an abortion two years previously, each without known cause.

External examination showed a greatly enlarged abdomen. Fetal heart sounds were distinctly audible over two separate areas of the uterus. Deep palpations between pains showed a promiscuous assortment of limbs and trunks, but not sufficiently well defined to enable me to make a diagnosis of position.

Vaginal examination showed the os slightly dilated, cervix soft and head of child just engaging. The pains, which had commenced twelve hours before were light at first and increased gradually until the time I saw her, when they were quite severe.

I made a diagnosis of twins, with the first one presenting O. L. A. The pains now gradually increased until they were almost unbearable, but with very little progress of the head. After about two hours the sac ruptured, the head came down to the perineum, but stopped, the pains meanwhile being stronger than before, but exerting no effect on the movement of the child. After hot applications to the perineum were made for a few minutes, the child was born, and the cord clamped and tied. There was very little hemorrhage.

Examination of the abdomen now showed two distinct masses in the uterus, one in the lower and one in the upper portion. A second diagnosis of twins was made. The mother now rested quietly for about thirty minutes, when pains began to return suddenly and severely. Vaginal examination showed that the sac had ruptured and a face presenting, which was with some difficulty changed to a vertex. The pains continued severe, but with little progress of the head. Finally there was complete stoppage with the head in the cervix.

With no progress in about an hour's time, I applied forceps, and delivered a blue baby, which was resuscitated by the throwing-over-the-shoulder method. The second cord was clamped.

A severe hemorrhage followed the delivery of the second child, and I injected one dram of aseptic ergot, hypodermically. The hemorrhage continuing, I passed a hand to the upper portion of the uterus, ruptured the third sac, and found a child in a transverse position, but was obliged to remove the hand before version could be done, on account of pain to the mother. The hemorrhage eased up, and after allowing the mother a few minutes rest, another examination showed a hand presenting. The labor pains ceased completely, and on this account I did version, Braxton-Hicks method, pulled down a foot, and delivered immediately.

The hemorrhage, though quite severe, was not so marked as after the second child, and was controlled by a second injection of ergot.

The placenta was firmly adherent to the left upper portion of the uterus, and was removed with difficulty, by the fingers, shortly afterward on account of the continued hemorrhage. Examination of the placenta showed it to be circular with the three cords located on the margin, equidistant from each other; total weight, seven pounds.

The uterus was now vigorously kneaded by-manually, and this was followed by an intra-uterine douche of hot sterile water. This resulted in a good contraction of the uterus and a checking of the hemorrhage.

The mother withstood the ordeal remarkably well, considering the fact that, on account of her heart and the absence of anyone capable of administering it, no anesthetic had been used. The amount of hemorrhage, while considerably greater than in normal single pregnancies, was not sufficient to cause any great alarm, and was easily controlled by manipulating the uterus and by the hot uterine douche. Aside from two one-quart saline enemas, no other after-treatment was attempted or required. Because of the great distention of the uterine walls the after-pains were quite marked during the contraction period, and required frequent doses of opiates to control them.

The babies, all boys, two brunettes and one blonde, were a well nourished set, considering their number, and weighed $5\frac{1}{4}$, $5\frac{1}{4}$, and $4\frac{1}{2}$ pounds, respectively. The mother convalesced rapidly without any temperature, and left the bed at the end of ten days. The babies were

*President's address read before the Wabasha County Medical Society at Melville, July 7, 1910.

quite restless for the first few days until the milk started, when they, too, progressed nicely. The mother had an abundant supply of milk for all three, for the first two weeks, at the end of which time, the amount diminishing, we were forced to a partial artificial diet, consisting of cow's milk, cream, water, lime-water, and sugar of milk, according to Holt. They thrived on this for a time, but the parents fell into the common habit of over-feeding. The next time I saw them, all were suffering from an attack of intestinal colic, with all its symptoms present. They were placed on laxatives and intestinal antiseptics, with all feeding stopped for thirty-six hours. At the end of that time they had improved. After this they received no nourishment whatever, except from the mother's breast, who, by the way, secreted an abnormally large amount of milk. When they became

restless and appeared to wish more nourishment than the breast could furnish, they were given the bottle with boiled water, to which had been added sugar of milk and lime-water. On this they successfully tided over the dangerous months of July and August, the babies constantly on the gain, the mother steadily gathering strength and apparently suffering no ill effects from the great strain upon her system.

The first of September found the babies with an aggregate weight of 36 pounds, a gain of 21 pounds in three months. The mother was in fairly good condition, but it was deemed advisable to save her somewhat by substituting an artificial diet, which was done, Holt's formula for the three-months-old baby being used during the day and the breast at night. On this diet they thrived and today are all well developed and healthy.

THE MEDICAL TREATMENT OF EXOPHTHALMIC GOITER*

By J. E. CREWE, M. D.

ROCHESTER, MINN.

The cause and treatment of exophthalmic goiter is now justly claiming a large share of the attention of the medical world. Notwithstanding the great amount of careful investigation that has been made, the question is far from being settled, many of the investigators arriving at conclusions directly opposite. Not understanding the chemistry and physiology of the gland, the medical treatment of the disease is as varied as the results of the investigators. On the other hand, rather definite conclusions are being obtained by the pathologists, and the surgical technic has been so improved that the surgical treatment, in the hands of the most experienced men, is now quite safe and the results very satisfactory. However, I believe the statement in a recent report on the serum treatment, by Beebe & Rogers, is not amiss: "Surgical treatment of Graves' disease can scarcely be called an emergency operation and, in our opinion, should not be undertaken unless the operator is thoroughly familiar with the disease and has had his judgment tempered by a wide experience."

Exophthalmic goiter should be divided into two classes: medical and surgical. Those cases seen early should be treated medically. Should they not show a reasonable improvement they

should become surgical cases, and that before degeneration occurs in organs other than the thyroid. All those cases seen late should be considered surgical cases, although a course of medical treatment may be required before operation, and after. This is not entirely fair to the surgeon, as he will have a higher mortality-rate than he would if he could have the early cases. Crile says: "Graves' disease should be recognized early, and medical treatment faithfully tried. This disease runs an uneven course. If, after careful treatment, relapses grow more severe, excision of the gland should be done."

A large percentage of cases can be cured when not too far advanced, and this brings up the question of early diagnosis. This is a very important point, and attention is now being called to it by the men who are doing the most advanced work on this subject. Dr. C. H. Mayo discussed this phase of the subject at a recent meeting of the Southern Surgical and Gynecological Association, and Dr. W. C. MacCarty, in his most interesting article, "The Reversion Theory and Classification of Goiter," says: "I feel that there are early cases which are not diagnosticated as soon as they should be, because the symptoms are not associated with noticeable external glandular enlargement. It behooves the examining physician, therefore, to consider the possibility of hyperthyroidism in all cases of tachycardia and extreme

*Read before the Southern Minnesota Medical Society, August 4, 1910.

nervousness. Such diagnosis, however, does not mean surgical treatment always, although it is often in these early cases that complete recovery is seen following operation."

I have made a rule for some time of examining the thyroid in all cases of so-called neurasthenia, or nervous cases whose etiology was not clear, and have been surprised at the frequency of enlarged thyroid in these cases. Some had tremor, more or less marked, or slight tachycardia, and, on the chance that they might be Graves' disease, I have treated them as such. The term, *exophthalmic goiter*, is surely a misnomer, for, if the patient is seen early enough, the diagnosis should frequently be made before exophthalmos appears.

It is quite possible that Graves' disease is not only more frequently recognized than formerly, but that there is an actual increase in the number of persons who have the disease, due, perhaps, to the increased demands made, particularly upon women, in the way of increased educational and social functions with the attending excitement and physical strain.

Although the conclusions of the various investigators have been so far from unanimous, nearly all admit that iodine plays an important part that cannot be ignored. Bauman first found iodine in the thyroid gland and isolated a substance which he called iodothylin. It is interesting to note the various opinions of different investigators. Some claim that the activity of the thyroid is dependent upon the iodine contained. Others claim that there is no relation between the thyroid and its iodine content, and that no importance is attached to it; while still others assert that the more active the gland the larger the amount of iodine it contains, and even claim that one of the chief functions of the gland is to take up injurious substances, including iodine, and render them harmless.

The extensive and interesting experiments of Reid Hunt seem to prove that the physiological action of the thyroid is dependent upon the iodine content, and would seem to confirm the theory of Blum, that there is manufactured in the body a toxic globulin, and that this is later detoxicated by the chemical action of iodine.

Notwithstanding the fact that it is asserted by some authorities that iodine is distinctly contraindicated in the treatment of Graves' disease, and among them Ochsner, who says in his recent book on thyroid disease, that "iodine is almost certain to do harm in Graves' disease," this is the drug that I have thought has cured my cases. But this does not prove anything, even to me, for

I know of two cases of Graves' disease cured by a Homeopath who gave a small vial of white powder, and a recent writer in the London Lancet reports at length the cure of one patient with sour milk. I have really believed that perhaps suggestion played an important part in the cure.

Granting that there is an excess of iodine in the gland in Graves' disease, if we accept Blum's theory, there may still be an insufficient amount to combat the increased toxins, just as, in spite of an excess of protective leucocytes in certain diseases, the patient may succumb.

In his experiments with goitrous fish in hatcheries, Marine finds that the hyperplasia, resembling that which occurs in Graves' disease, stops, and the gland returns to the colloid state, after iodine has been put in the water, and also after the fish have been returned from the hatcheries to the brooks.

It is rather interesting to know that while iodine was discovered in 1812 by Courtois, it has actually been used in the form of burnt sponge for the treatment of goiter since the thirteenth century, and this remedy was used quite generally throughout Europe. A remedy long used for goiter in South America was called *aceyte de sal*, and has been found to contain a considerable amount of iodine.

In his experiments with mice poisoned with acetonitrile, Reid Hunt found that when these poisoned mice were fed thyroids they had as much as ten times the resistance to the poison as had the controls without thyroid, and that the amount of resistance was dependent upon the amount of iodine in the thyroids given.

Among other remedies in Graves' disease the x-ray is probably the most popular. The serum treatment of Rogers and Beebe is along modern lines, and although its use has been attended with success, it has not as yet come into general use. Forscheimer highly recommends the use of hydrobromate of quinine in doses of 5 grains given four times daily with or without the use of ergotin. He notes improvement within forty-eight hours. He has seen cures in three months' time. He treated one case three years with ultimate recovery. He reports five failures in forty-five cases. I have had no experience with any of these or of the numerous other remedies advocated.

For the past ten years I have treated all classes of goiter in about the same way and for the most part with about equal results, whether simple or exophthalmic. The treatment has consisted, for the home-treatment of mild cases, in simply

painting the neck with tincture of iodine every night. Severe cases, or those that did not respond to the home-treatment, were given galvanism on alternate days, the negative electrode being saturated with decolorized tincture of iodine and placed over the gland. For exophthalmic cases, rest, mental and physical, was advised, with good food and fresh air. When the heart was very rapid codeine was given in increasing doses. Besides this the patients were encouraged, and at first the pulse was counted at each treatment, and they were told that it was slower and better, and it usually was. In anemic cases I usually gave the iodide of iron, and in others sometimes potassium iodide. The cases ranged from the mildest forms to quite severe types, but none were extreme cases when I got them. One case died four years after I first saw her. In July, 1906, I first saw the case, at which time she weighed 90 lbs.; pulse, 140; marked tremor and general weakness; moderate-sized goiter and considerable exophthalmos. Hot weather affected her seriously, and she made but little improvement until cooler weather, when in two months she gained 30 pounds in weight and improved generally. While still having some symptoms she went to Dakota where she was homesick and unhappy, returning after about three months much worse than she had been in the beginning. She was treated for about six months, gradually improving, and the gland becoming small and nodular. In spite of the fact that this patient had made a good deal of improvement she was so unstable and unresisting that I always had doubts of her ultimate cure, and, as this was a favorable time, I advised an operation. She declared she was satisfied with her condition, and as she continued to improve without treatment I did not insist. Last winter she was able to attend dances regularly, against advice, but in January the gland became larger and softer, and she thinner

and more nervous. In the spring I gave her a few treatments, but advised an operation, to which she consented, but kept putting it off. The early hot weather of this summer affected her seriously, and she was obliged to go to bed, dying after a week's illness with all the symptoms of thyroid poisoning.

Another case began with a history similar to the above; age 19. She gained thirty pounds in six weeks. Has been well seven years. One was a child eight years old; has been well four years. One, a man thirty-four years old, rather severe type, very nervous and thin. I treated him two months in 1905, when he was obliged to go to his home in Dakota. He used a small battery at home, gradually improving. He called on me last summer, looking quite well, and said he felt well, but he had a small mass in the neck, which he said annoyed him, and he had it removed at St. Mary's Hospital. Another case was a woman of forty years who had had a small goiter for many years; her husband and several children also had goiters. She suddenly developed symptoms of Graves' disease, was extremely nervous and fearful, with tachycardia, marked tremor, and loss of weight. I treated her only a few times when she was obliged to go home where she simply painted the neck with tincture of iodine. I saw her again in two weeks, and the acute symptoms had subsided, to my surprise, and she declared herself well. I saw her a year later, and there had been no return of the symptoms.

A number of the cases were of the mildest type, about twenty in all. None were of the severest types and they have appeared to me to be of interest chiefly because of the uniformity of the treatment. In the case that died I should have insisted upon an operation at a favorable time.

FRACTURE OF THE CLAVICLE, SHOWING A VERY SATISFACTORY POSTERIOR FIGURE-OF-EIGHT DRESSING

By JOHN B. BRIMHALL, M. D.

ST. PAUL

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D. Hayes Agnew says: "The three indications to be fulfilled in the reduction of a broken clavicle are to carry the shoulder *upward, outward, and backward*. All these movements are designed to affect the acromial fragment. The

first brings it to the level of the sternal piece; the second removes the overlapping; and the third restores the line of the bone."

To meet these indications many forms of dressings have been used, and most of them fail

in their purpose, besides being a very great discomfort to the patient. The commonly used dressings are—

The Velpeau roller.

Mayor's handkerchief dressing.

Sayre's dressing.

Desault dressing: first, second, and third roller.

Moore's figure-of-eight of the elbow.

Fox's ring, sling, and pad.

Levis' pad, sling, and strap.

Metallic shoulder-caps, buckled together in the back.

Posterior figure-of-eight roller.

Various back splints, among which is one de-

looked until the deformity caused by callus attracts attention to the injury, and which almost invariably show good result. However, the comfort of the patient demands that these injuries be treated by a method which insures a perfect result, and at the same time is comfortable during the three or four weeks of repair. This is sought by the use of a figure-of-eight plaster-of-Paris dressing, which is applied as follows:

The patient is dressed in a gauze or cotton undershirt and placed either in the standing posture or sitting on a chair facing the back of the chair. Sufficient sheet-cotton wadding is



Cut I—Showing cast grasping both shoulders, leaving both arms free.

vised by Dr. Staples of Minnesota, and is favorably mentioned by Ashhurst in his fifth edition of "Principles and Practice of Surgery," published in 1889.

The chief objection to posterior splints and figure-of-eight rollers has been that force is exerted on the acromial part of the scapula only, and not on the entire bone; therefore in the ideal dressing this must be overcome.

Many surgeons have discussed, and are still undecided, as to whether a dressing is an essential factor in the repair of a fractured clavicle, citing the cases which every practitioner occasionally sees of fracture of the clavicle over-



Cut II—Showing position of shoulders and cast applied lower on the injured side in order to grasp the entire scapula. Both arms left free.

placed over the shoulders, and both scapulæ with a few turns are carried around the shoulders and through the axillæ. Plaster-of-Paris bandages, two and one-half or three inches in width, are applied in a manner as suits the operator in accomplishing the purpose, a simple way being to apply the bandages in the form of an X, letting the upper poles extend over the top of the shoulder and well down on the anterior aspect of the same, the lower poles of the X reaching the lower angles of the scapulæ. The scapulæ will be well covered by the plasters as the bandage is alternated from one side of the X to the other.

It is advisable to drop the dressing lower on the side of the injury than this scapula may be well grasped (see cut). About every fourth layer of the bandage may be carried down the anterior surface of the shoulder and back through the axilla, thus moulding the plaster dressing about the shoulder. Use sufficient bandages to make a strong dressing, there being little objection to a heavy dressing as the weight is so distributed that it is not noticed.

The shoulders may be held by an assistant, although this is not really necessary as the application of the figure-of-eight turns of the bandage will keep the position, after being first properly placed by the operator, and some member of the family usually assists by supporting the arm of the injured side. Allow both arms to come to patient's sides while plaster is hardening then keeping both shoulders held in the desired position.

If there seems to be too much plaster applied in front and through the axillæ this can easily be removed with a sharp pen-knife after the cast has hardened and while the same is still moist. This fixed dressing practically prevents movements of the fragments, and thus insures comfort, as well as results.

Both arms are left free and useful. Clothing can be worn in the usual manner. By opening the shirt in front, perfect hygiene of the axillæ may be maintained.

This dressing is a wonderful protection to the patient who finds himself closely pressed in a crowd, and is a protecting friend to the child who is attending school while suffering from a broken collar-bone.

BOOK NOTICES

BORDERLAND SURGERY. By Gustavus M. Blech, M. D., Professor of Clinical Surgery, Medical Department, Loyola University, Chicago. Cloth, pp., 219. The Professional Publishing Company, Philadelphia, 1910.

This little surgical volume intended for the "General Practitioner," "The Beginner," the "Occasional Operator," and not for the "Specialist," is not all bad, but for the most part is an illy written account of some of the author's cases, his experiences, and surgical opinions, and as such should prove an interesting document to his friends.

SURGICAL AFTER-TREATMENT. By L. R. G. Crandon, A. M., M. D. Assistant in Surgery at Harvard Medical School. Octavo of 803 pages, with 265 original illustrations. Philadelphia and London: W. B. Saunders Company, 1910. Cloth, \$6.00 net; Half Morocco, \$7.50 net.

This book is a whole library of useful information. It deals with the details of surgery, and its study will enable the physician to add much to the comfort of the patient. It contains a great deal of knowledge that every doctor should use in his instruction to the nurse for the care of the patient. The whole question of anesthesia, its administration and the lessening of discomforts afterward, is very well explained. The relief of pain and the subject of shock are fully discussed. Postpartum hemorrhage with a full discussion of the different methods of the transfusion of blood, which have received some important recent attention, are fully gone into. The author takes up in an authoritative way such topics as, "when to drain and when not to drain," "abdominal supporters," "Bier's hyperaemic treatment," "status lymphaticus," "hemophilia," and "drug habits," all in their relations to surgical conditions.

The latter part of the book deals with the special care after special operations, the after-treatment of fractures and therapeutic immunization and vaccine therapy. The book is well printed and fully illustrated, and the general practitioner, as well as the surgeon, will profit by reference to its pages.

GENERAL SURGERY. Edited by John B. Murphy, A. M., M. D., LL. D., Professor of Surgery in the Northwestern University. Vol. II, The Practical Medicine Series. Cloth, pp., 615, with illustrations. Chicago: The Year Book Publishers, 1910.

This annual volume should be in the working library of every progressive surgeon and should be read by all practitioners interested in the progress being made in surgery. A review is given of the world's most important monographs and articles that have appeared during the year 1909, together with a reference to the original publications and as such is a digest of the great advances made in surgery during the past year, all presented in a most concise and readable form. So much valuable material is crammed between these two covers, that reference to specific excellences is impossible in a limited space.

REPORTS OF SOCIETIES

HENNEPIN COUNTY SOCIETY

A stated meeting of the Society was held September 5th, Dr. C. A. Donaldson in the chair and 21 members present. The following men were elected to membership: Dr. James F. Beck, Dr. A. E. Booth, Dr. Chas. Noyes Brooks, Dr. H. D. Newkirk, Dr. Thoms A. Martin, Dr. D. W. Horning.

PROGRAM OF THE EVENING

"The Unnecessary Use of General Anaesthesia in Throat Operations," by Dr. E. J. Brown.

The paper was discussed by Drs. A. J. Watson, and E. S. Strout. The discussion was closed by Dr. E. J. Brown.

"The Treatment of Varicose Ulcers," by Dr. J. E. Moore.

This paper was discussed by Dr. S. E. Sweitzer and Dr. A. Hirschfield, and the discussion was closed by Dr. J. E. Moore.

SPECIAL STUDY COURSE OF THE HENNEPIN COUNTY MEDICAL SOCIETY

Medical Library. Tuesdays at 12:30 p. m. Lecture 1:00 to 2:00 p. m. Lunch 25c.

October 4—Introductory Lecture—"Should Evolution be regarded an established theory? Recent hypotheses in Mutation, Mendelism, Natural Selection, Inheritance, etc." Prof. Frederic E. Clements.

October 11—Eugenics—"Problems and Ideals. What has been brought about in animal and agricultural experimentation." Dr. H. M. Reynolds.

October 18—"Are habits inherited?" Prof. J. B. Miner.

October 25—"The Inheritance of Mental Traits." Prof. J. B. Miner.

November 1—Embryology—"The ovum, its development and fertilization and implantation in uterus." Prof. Thomas G. Lee.

November 8—The Fetus—"Causes of arrested development and monstrosities, the amnion and chorion and their diseases, etc." Prof. Thomas G. Lee.

November 15—Changes in the Maternal Organism—"Histological changes in uterus and

placenta, during pregnancy, etc." Prof. Thomas G. Lee.

November 22—Signs and symptoms of pregnancy; differential diagnosis, duration of pregnancy, and estimation of date of confinement. Dr. H. J. Tunstead.

November 29—Diseases of Pregnancy—(a) "Toxaemia, recent studies relating to vomiting of pregnancy, acute yellow atrophy, the ductless glands, etc." (b) "Management of toxæmic state and albuminuria, prevention of eclampsia, etc." Dr. Lester W. Day.

December 6—Obstetrical anatomy of the normal pelvis, pelvimetry. Deformed pelvis and their effect on labor. Dr. F. L. Adair.

December 13—Presentation and position of the fetus. Diagnosis by abdominal, rectal and vaginal examination. Management of abnormal presentations. Version, etc. Dr. F. L. Adair.

January 10—Dystocia—(a) "Uterine contractions deficient and excessive, rupture of uterus, etc." (b) "Abnormalities of parturient canal, ventrofixation of uterus, displacements of uterus, tumors, etc." (c) "Abnormalities of fetus, hydrocephalus, etc." Dr. J. C. Litzenberg.

January 17—Emergencies; Hemorrhage premature, placenta praevia, post-partum hemorrhage, inversion of uterus, etc. Dr. J. C. Litzenberg.

January 24—Conduct of normal labor preparatory and clinical. The lying in room, (a) fully equipped in hospital; (b) scantily equipped in private; (c) the obstetric outfit, etc. Dr. A. B. Cates.

January 31—Instrumental delivery; indications for use of forceps, choice of forceps and how to use it, preparation and precautions, etc. Dr. A. B. Cates.

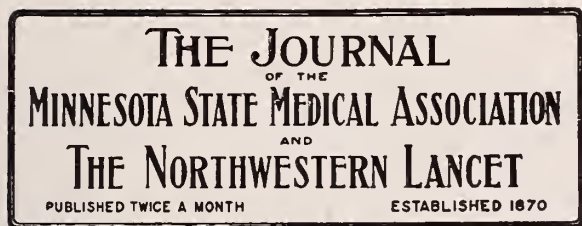
February 7—Obstetric surgery; Craniotomy vs. Caesarian section, Symphyseotomy, pubotomy, etc. Dr. G. C. Barton.

February 14—Indications for, and methods of inducing premature labor. Extra-uterine pregnancy, diagnosis and operation. Abortions and their management. Dr. R. R. Rome.

February 21—Puerperal sepsis; phlebitis and thrombosis, etc. Clinical management. Dr. M. J. Lynch.

February 28—The normal puerperium. Anatomy of the mammary gland, and how to increase milk secretion. Mastitis, causes and prophylaxis. Feeding and care of infant during puerperal period. Dr. W. H. Hallowell.

C. H. BRADLEY, M. D., SECRETARY.



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OCTOBER 15, 1910

THE MINNESOTA STATE MEDICAL ASSOCIATION MEETING

The meeting, which was held in Minneapolis on Oct. 6th and 7th was the best meeting in the history of our Association, as far as registration and attendance goes. It was rather interesting to note that, although the membership of the Society, as reported by the secretary, is about 1,300, there were 368 registered at the meeting, 174 from the country, 153 from Minneapolis and 41 from St. Paul. The meeting should have had a larger attendance in proportion to the population of the organization. Hennepin County Medical Society, with its membership of 330, sent fifty per cent of its members. The country, at large, exclusive of Minneapolis and St. Paul, represents approximately about 800 doctors—but 174 were noted in the registry. This is hardly the proper proportion, and something must be devised to induce the men in the country to attend the sessions more regularly. There is too little medical enthusiasm and too much procrastination on the part of the doctor. It is hard to believe that all of these absent members had a real, legitimate excuse, but a doctor's excuse is always a sufficient one, and nearly every one believes him when he says he has "a patient to see." The truth of his mis-statement has been verified

time and again in that when the doctor leaves the patient for a few days he improves, and it is only rarely that the sick man needs the constant attention of his physician.

The Unitarian church, where the meeting was held, is ample in size, except on the day when the Chicago guest, Dr. Murphy, was the speaker. Then it was over-crowded, and if all of the members, who should have been there, had attended the meeting, the auditorium would not have been sufficiently large.

The class of papers on the program was uniformly good. It is hard to say that they were better than the average, but they covered a chain of subjects that was rather broader than the programs previously. Every year shows an improvement in the State Medical Association, and every year we must expect something better.

The demonstration clinic at the Institute of Public Health and Pathology on the University grounds was a new departure, and whenever possible it should be undertaken, as it brings the men into closer touch with the laboratory and clinical methods, combined. Then, too, it permits the use of the lantern for illustration purposes.

Out of the 31 papers but two of the men on the program failed to put in an appearance. One was sick in bed with acute rheumatism and the other was unable to come—a very good record, considering the wide field covered by the program committee.

The smoker at the Radisson in the Commercial Club rooms was evidently a social success, if not a gastronomic fête. The rooms were crowded, and more than the usual number of men sat down to the tables to gossip, visit and exchange experiences and to renew acquaintances. These affairs are really a very important part of the state meeting, and they should never be overlooked, for many a man comes to the city to renew his acquaintance with a fellow man. The social side of the organization should always be made a prominent feature, for there is nothing like seeing a man and talking with him face to face, as well as learning his opinions.

DR. JOHN B. MURPHY'S VISIT

The Minnesota State Medical Association was highly honored by the presence of the newly elected president of the American Medical Association, Dr. John B. Murphy of Chicago.

Dr. Murphy was requested to talk on "The Recent Advances in Neurological Surgery," but

he was unable to take up the subject for lack of time for his preparation. He talked, however, very entertainingly on his "New Methods in the Treatment of Infected Joints," and although his address lasted 50 minutes, there was no lagging on the part of the speaker, or lack of interest on the part of the audience.

Dr. Murphy is an incisive and clear thinker and speaker. Every word of his sentences means something. He is not given to repetition, but his force and erudition leaves an impression on his audience which shows that he is a great teacher and scholar. We regret not being able to print his address, but by his particular request it will not be printed until he has completed his experimental work on joints. Then the article will appear in one of the other journals, probably the Journal of the American Medical Association.

MRS. CRANE'S MEETINGS

Mrs. Crane has slowly progressed through the state, leaving a good impression behind her. Her work at Duluth was effective in that it stimulated an active interest in the people and in the newspapers.

Evidently she found some things to criticise for her remarks concerning the poor or almshouse created a feeling on the part of the commission which ended in a newspaper controversy. Mrs. Crane was taken to task for her outspoken opinion and denials were made concerning certain statements she made.

Her reply was to the point and she met all arguments in her usual manner. The tone of her letter was convincing, so much so that the newspapers thanked her for her good work. It is not possible to carry on the campaign of inspection and education that Mrs. Crane conducts without some injured feelings, but in the end the people and officials will do the right thing and the flagrant violations of sanitary rules will disappear. All of the cities Mrs. Crane visits need a good shaking up. No harm can come from any truthful exposure of municipal wrongs. Mrs. Crane finds much to praise and this should encourage workers to do better work in every municipal and sanitary line. When the Twin Cities fall under the inspector's eye, its citizens may be surprised at Mrs. Crane's frank statement of faults that can and must be remedied.

Mrs. Crane will be introduced to the prominent business men of Minneapolis at a great publicity dinner, November 4.

The following is Mrs. Crane's future work in Minnesota:

MRS. CRANE'S ITINERARY

Winona—Oct. 20-21.
 Rochester—Oct. 22-24.
 Owatonna—Oct. 25-26.
 Albert Lea—Oct. 27-28.
 Faribault—Oct. 29-Nov. 1.
 Mankato—Nov. 2-3.
 Waseca—Nov. 4.
 St. Cloud—Nov. 10-11.
 Minneapolis—Nov. 12-16.
 St. Paul—Nov. 19-23.

Many towns and cities have tried to get Mrs. Crane for one day but her time is limited and every hour occupied. Perhaps she will come again.

"THE DISPENSING PHYSICIAN"

There has been more or less discussion and some legislation directed toward druggists who prescribe over the counter and physicians who dispense their own medicines.

The National Association of Retail Druggists has distributed leaflets among the laity, attacking dispensing physicians and the house which supply them with remedies.

This National Association supplies retail druggists with free samples to be distributed to the laity—a pernicious practice.

An effort at any legislation preventing the physicians from dispensing pills, tablets or other necessary and convenient remedies would work a hardship that would be cruel and unjust but the N. A. R. D. is looking after its own interest and cares not for the doctor or his patient.

At a meeting of the American Pharmaceutical Association, at its last meeting, in Richmond, the following resolutions were adopted:

Resolved, That we recommend that any movement for the reform of medical practice be allowed to originate and proceed within the medical profession.

Further, That we are opposed to any attempt on the part of the pharmacal press to dictate or compel any such reform, believing as we do that the medical profession is qualified to institute and carry out its own necessary reforms.

These resolutions are sufficiently dignified and explain the situation in a nutshell.

Counter prescribing by druggists will continue as long as mixed drug stores exist and no amount of coercion will stop it.

The only remedy is the education of the people, the right kind of a physician and the right

kind of drugs used intelligently and not in a haphazard way.

Careless prescribing in whatever form is to be condemned.

Let the doctor do his own prescribing, and if necessary, his own dispensing and the responsibility rests with him.

Deny him this privilege and he will evade his restrictions just as the smuggler brings forbidden articles into foreign ports.

Protect the doctor and his remedies and he will do less harm and, in time, will learn to use less drugs.

THE NERVOUS SYSTEM IN CHILDHOOD

It is difficult to understand why physicians, through long generations, have had so little to do with the rearing of children. In very recent years the condition has changed somewhat, but even now in most families the physician is called if the child is physically ill, but his advice is never asked when the training or development of the child is under consideration, and probably advice is as rarely offered as it is asked. The physician has been looked upon as the trustworthy guide in pneumonia and scarlet fever, but for the peevish, wayward, capricious child, the sensitive, morbid, repressed child, or the dull or stupid child, his services have not been invited. Such ailments have been looked upon as belonging to the moral, not to the physical realm, and therefore as something calling for the ministrations of the priest rather than of the physician.

The excellent work done on the study of school children, the tendency among physicians to develop specialists in children's diseases, and the building of children's hospitals, have all helped to bring in a new era, and the under-developed, poorly nourished child is no longer looked upon as the ideal scholar, but intellect and morality are both coming to be recognized as having a physical basis.

With the knowledge of physical facts, however, there has not yet come a corresponding insight into the emotional life of children. George Eliot has well put it in "The Mill on the Floss" when she says:

"'Ah, my child, you will have real troubles to fret about by-and-by'; and this is the consolation we have almost all of us had administered to us in our childhood, and we have repeated it to other children since we have been grown up. We have all of us sobbed so piteously, standing with tiny bare legs above our little socks, when we lost sight of our mother or nurse in some strange place; but we can no longer recall the poignancy of that moment and weep over it, as

we do over the remembered sufferings of five or ten years ago. Every one of those keen moments has left its trace and lives in us still, but such traces have blent themselves irrevocably with the firmer texture of our youth and manhood; and so it comes that we can look on at the troubles of our children with a smiling disbelief of their pain. Is there any one who can recover the experience of his childhood, not merely with a memory of what he did and what happened to him, of what he liked and disliked when he was in frock and trousers, but with an intimate penetration, a revived consciousness of what he felt then, when it was so long from one midsummer to another? * * * Surely, if we could recall that early bitterness, and the dim guesses, the strangely perspectiveless conception of life that gave the bitterness its intensity, we should not pooh-pooh the griefs of our children."

Naturally, not all children suffer to the same degree in respect to the evil effects of a hyper-sensitive nervous system, but few adults have any means of determining what the average child feels, to say nothing of the excessively sensitive child. The extraordinary appetites of certain children, their dislikes for certain foods, such as fats, the fear of certain sights and sounds, of the dark, of corporal punishment, of the eternal punishment which must follow the moral delinquency of which they are perhaps conscious—all affect the ordinary child to some degree, but in the neurotic child they exercise an influence which is enormous and is never effaced throughout the individual's life. How many neuroses and psychoses have had their origin in the injudicious treatment of the effects of the too active imagination of a neurotic child, can scarcely be told.

Certainly, it is no light task to serve as the advisor of the parents of one of these children, but it is a thing which is being demanded more and more of physicians, and our success in this field will depend upon the degree of our insight into the child's suffering, and upon the sympathy and tact which we display in the treatment which is demanded.

MEDICAL PRACTICE LAWS

At present any practitioner in New York must be able to pass the State examination no matter what school he graduated from. Since November, 1907, every osteopath has had to take a three years' course in medicine, and after 1910 he will have to take a full four years' course and State examination. Last year 92.1 per cent. of all graduates in the State graduated from the regular medical colleges.—Medical Record.

CORRECTION

A letter just received from Dr. F. A. Engstrom of Estherville, Iowa, assures us that we were somewhat premature in announcing his death. It is true he had an operation for appendicitis, but he made an uneventful recovery, and was able to drive sixty miles on the fifteenth day. We are pleased to acknowledge the inaccuracy of our source of information.

NEWS ITEMS

Dr. Jas. Manley of Niagara, N. D., was recently married.

Dr. P. E. Sheppard and Miss Grace Goodnow of Hutchinson, Minn., were recently married.

Dr. Geo. F. Witter of San Jose, Cal., formerly of St. Paul, was recently killed in an automobile accident.

Dr. H. B. Cole of Franklin, Minn., has just returned from a month's post-graduate work in Philadelphia.

Dr. Eugene B. Stebbins of Hurley, Wis., was recently married to Miss Gertrude Eichten of Stillwater, Minn.

Dr. C. S. Smith of Kalispell, Mont., and Miss Carolyn VanZandt of Bozeman, Mont., were married Sept. 4th.

Dr. Percy R. Fischer of Denton, Maryland, and Miss Alma T. Buswell of Winona, Minn., were recently married.

Dr. S. H. Boyer of Duluth has been chosen as chairman of the Republican county committee for the coming campaign.

Dr. F. J. Jensen of Madelia, Minn., has bought a practice in Duluth with the intention of removing to that place.

Dr. J. H. Beaty of St. Cloud has returned to his home, having spent five weeks in the hospital recovering from an operation.

Dr. D. M. Robinson of Pierre, for years a member of the South Dakota State Board of Health, died recently at his home.

Dr. W. T. Stone of Park Rapids, Minn., was nominated on the Republican ticket on a county option platform for member of the legislature.

Dr. F. M. McLachlan of Bismarck, N. D., has just returned from a summer's trip to Europe, where he did special work in eye, ear, nose and throat.

Huron and Watertown, S. D., are at present engaged in a contest to determine which shall secure the new Methodist State Hospital, to cost \$250,000.

The Swedish Hospital of Minneapolis has purchased additional land with the ultimate expectation of building a hospital for contagious diseases.

Dr. Irving H. Kiesling, who has been connected with the State Hospital for the Insane at Fergus Falls, Minn., has gone to Hibbing to enter general practice.

Dr. S. E. Bigelow, formerly of the staff of the hospital at Biwabik, Minn., was recently married to Miss Maude Barr of Marble Rock, Iowa, and will engage in practice in Iowa City, Iowa.

Dr. O. F. Thomas, who has been in practice in this state for over twenty-five years, died recently at Lakeland, Minn., at the age of sixty-seven years. He retired from practice one year ago.

Dr. Chas. G. McMahon of Hibbing, Minn., late health officer of that town, has removed to Copper Hill, Tenn., where he will be employed as chief surgeon by the Tennessee Copper Company.

Dr. F. F. Laws, who was one of the founders of the Norwegian Lutheran Deaconess Hospital in Minneapolis, and was for many years connected with that institution, has moved to Sacred Heart, where he will engage in the practice of medicine with his son.

Dr. H. T. McGuigan, who has been in practice in Mazeppa for the past eight years, has sold his business to Dr. W. B. Heagerty of Minneapolis. Dr. McGuigan will ultimately remove to Red Wing, Minn., where he has become associated with Drs. Creamer and Haesslee.

The dispensary staff of Wells Memorial House, Minneapolis, has been reorganized with the following members: Dr. H. L. Knight, Dr. H. McI. Morton, Dr. W. M. Chowning, Dr. H. W. Cook, Dr. C. B. Wright, Dr. J. S. Reynolds, Dr. J. E. O'Donnell and Dr. K. J. Lee.

FOR SALE

WHAT THE FIGHT AGAINST TUBERCULOSIS HAS ACCOMPLISHED

Stephen J. Maher, of New Haven, Conn., admits that the fight against tuberculosis has prolonged the lives of the victims of the disease, and saved the lives of many human beings; it has taught governments the enormous economic losses caused by the disease; it has taught the value of fresh air; has stimulated generosity and pity for those needing help; but it has not wiped out the disease.—Medical Record.

I will sell my practice of from \$2,800 to \$3,100 a year in large and rich territory in western Minnesota to the man who will buy my office fixtures, invoicing from \$350 to \$400. A splendid opportunity for the right man. Am going to city. Address W. C. care of this office.

Doctor's practice and drug stock at once in town of northern Minnesota. An excellent chance to step into paying practice at once. No opposition. Address H. G., care of Journal.

Doctor, if you want practical postgraduate work during fine season in the delightful city, write for particulars. New Orleans Polyclinic, P. O. Box 797, Postgraduate Dep't., Tulane Med. College.

When a foreign body in the nose is not easily removable with forceps, remember Felizet's simple method—the injection of warm water into the opposite nostril. Use a syringe or douche nozzle that snugly fits the naris. Begin gently and slowly, then increase the force. As the resistance suddenly ceases, the foreign body is shot out (or at least is dislodged), by the pressure of the fluid reflected from the posterior wall of the pharynx.—*American Journal of Surgery.*

DEATHS REPORTED TO THE STATE BOARD OF HEALTH
OF MINNESOTA FOR THE MONTH OF JULY, 1910

REPORTED FROM STATE INSTITUTIONS FOR MONTH OF JULY, 1910

STATE INSTITUTIONS.				Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Acute Anterior Polio Myelitis	Typhoid Fever	Diarrheal Diseases of Children	Cancer	Puerperal Septicemia
Fergus Falls, Hospital for Insane.....	8	3	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rochester, Hospital for Insane.....	4	2	..	..	..	..	..	..	1	..	..	..	..	..	1	..	..	..
St. Peter, Hospital for Insane.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Anoka, Asylum	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hastings, Asylum .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Faribault, School for Deaf.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Faribault, School of Blind.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Faribault, School for Feeble Minded.....	4	3	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Owatonna, School for Dependents.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Stillwater, State Prison.....	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
St. Cloud, State Reformatory.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Red Wing, State Training School.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Minneapolis, Soldiers' Home.....	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Totals	27	8	2	1	1	..	..	..	..	..	..	..	..	..	1	..	..	..

REPORTED FROM 72 CITIES HAVING A POPULATION OF 1,000 OR UPWARDS
FOR THE MONTH OF JULY, 1910

CITIES.	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Acute Anterior Folio Myelitis	Typhoid Fever	Diarrheal Diseases of Children	Cancer	Fueral Septicemia
Albert Lea	4,500	5,657	3	1	1			1									
Anoka	3,769	4,053	7	2	1												
Austin	5,474	6,489	7	1													
Barnesville	1,326	1,566	2														
Bemidji	2,183	3,800	10	1				1					2	1	2		
Blue Earth	2,900	2,364	4			1		1							1	1	
Brainerd	7,524	8,111	9				2	1							2	1	
Chaska	2,165	2,085	*														
Chatfield	1,426	1,300	*														
Cloquet	3,074	6,117	8	1											2	1	
Crookston	5,359	6,794	9	3										1			
Detroit	2,060	2,149	3														
Duluth	52,968	64,942	72	7	2	3						1			9	5	
East Grand Forks	2,077	2,489	3								1						
Ely	3,712	4,045	6														
Eveleth	2,752	5,332	7														
Faribault	7,868	8,279	3	1		1									4		
Fairmont	3,440	2,955	1	1													
Fergus Falls	6,072	6,692	8											1		1	
Granite Falls	1,214	1,340	2														
Hastings	3,811	3,810	4										1			1	
Hutchinson	2,495	2,489	1														
Jordan	1,270	1,311	*														
Lake City	2,744	2,877	4														
Litchfield	2,280	2,415	1														
Little Falls	5,774	5,856	3												1		
Luverne	2,223	2,272	2			1										1	
Le Sueur	1,937	1,842	1														
Madison	1,336	1,604	1														
Mankato	10,559	10,996	14			2	1										
Marshall	2,088	2,243	0														
Melrose	1,768	2,151	1														
Minneapolis	202,718	261,974	335	35	7	17	1	7	6	1	1	1	1	5	60	16	
Montgomery	979	1,281	1														
Montevideo	2,146	2,595	0														
Moorhead	3,730	4,794	2									1					
Morris	1,934	2,003	1														
New Prague	1,228	1,419	2			1										1	
New Ulm	5,403	5,720	7	1					1						1	2	
Northfield	3,210	3,438	4						1								
Ortonville	1,247	1,612	1														
Owatonna	5,561	5,651	4													1	
Pipestone	2,536	2,885	0													1	
Red Lake Falls	1,885	1,797	1														
Red Wing	7,525	8,149	6												2		
Redwood Falls	1,661	1,806	0							1							
Renville	1,075	1,229	0														
Rochester	6,843	7,233	18	3												6	
Rushford	1,100	1,133	1														
St. Charles	1,304	1,238	1														
St. Cloud	8,663	9,422	10	1	1							1			1	1	
St. James	2,607	2,320	0														
St. Paul	163,632	197,323	208	21	3	14		13	4			1		3	29	15	3
St. Peter	4,302	4,514	0														
Sauk Centre	2,220	2,463	2														
Shakopee	2,046	2,069	0														
Sleepy Eye	2,046	2,312	1														
South St. Paul	2,322	3,458	7	1												2	
Stillwater	12,318	12,435	8	2											1	1	
Thief River Falls	1,819	3,502	1														
Tower	1,366	1,340	2													1	
Tracy	1,911	2,015	1													1	
Virginia	2,962	6,056	13		1							2		1	5		
Wabasha	2,528	2,619	1					1									
Warren	1,276	1,640	3													1	
Waseca	3,103	2,838	0														
Waterville	1,260	1,383	1														
West St. Paul	1,830	2,100	0														
Willmar	3,409	4,040	3	2													
Windom	1,944	1,884	2					1									
Winona	19,714	20,334	19							2					5	1	
Worthington	2,386	2,276	3						1						1		

*No report received. Health officer notdoing his duty.

REPORTED FROM 65 VILLAGES HAVING A POPULATION OF 1,000 OR UPWARDS

FOR THE MONTH OF JULY, 1910

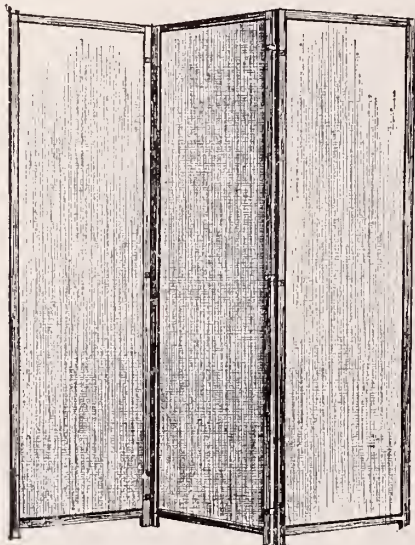
VILLAGES.	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Acute Anterior Polio Myelitis	Typhoid Fever	Diarrheal Diseases of Children	Cancer	Puerperal Septicemia
Ada	1,253	1,515	2														
Adrian	1,258	1,184	1														
Aitkin	1,719	1,896	0														
Akeley		1,636	0														
Alexandria	2,681	3,051	2														
Appleton	1,184	1,321	1										1				
Belle Plaine	1,121	1,301	0														
Benson	1,525	1,766	1						1								
Breckenridge	1,282	1,850	3														
Buffalo	1,040	1,124	2														
Caledonia	1,175	1,405	*														
Canby	1,100	1,505	2														
Cannon Falls	1,239	1,460	1														
Cass Lake	546	1,062	1														
Chisholm		4,231	10	1		1										3	1
Dawson	962	1,056	1														
Delano	967	1,023	1														
Fosston	864	1,000	2										1				
Frazee	1,000	1,146	1										1				
Glencoe	1,780	1,805	2			1											
Glenwood	1,116	1,718	1														
Graceville	856	1,032	0														
Grand Rapids	1,428	2,055	*														
Hallock	805	1,014	0														
Hibbing	2,481	6,566	20	2	2										1	5	
Jackson	1,756	1,776	5	1								1					2
Janesville	1,254	1,205	1														
Kasson	1,112	1,049	0														
Kenyon	1,202	1,252	1														
Lake Crystal	1,215	1,231	1														
Lanesboro	1,102	1,041	4													1	
Long Prairie	1,385	1,256	1		1												
Madelia	1,272	1,290	3														
Milaca	1,204	1,319	2														
Mountain Lake	959	1,063	0														
North Mankato	939	1,129	1	1													
North St. Paul	1,110	1,400	0														
Olivia	970	1,019	*														
Osakis	917	1,056	0														
Park Rapids	1,313	1,719	2														
Pelican Rapids	1,033	1,095	1														
Perham	1,182	1,366	3			1											
Pine City	993	1,092	*														
Plainview	1,038	1,140	2														
Preston	1,278	1,320	2														
Princeton	1,319	1,704	4														
Rush City	987	1,041	2														
Rushford	1,062	1,040	0														
St. Louis Park	1,325	1,491	2														
Sandstone	1,189	1,589	*														
Sauk Rapids	1,391	1,552	2														
Scanlon		1,122	*														
South Stillwater	1,422	1,572	0														
Springfield	1,511	1,546	0														
Spring Valley	1,770	1,573	1														
Staples	1,504	2,163	0														
Two Harbors	3,278	4,402	2														
Wadena	1,520	1,868	0														
Wells	2,017	1,814	1														
West Minneapolis	2,250	2,530	1														1
Wheaton	1,132	1,346	1														
White Bear Lake	1,288	1,724	1														
Winebago City	1,816	1,553	*														
Winthrop	813	1,031	0														
Zumbrota	1,119	1,129	2							1							
State Institutions			27	8	2	1		1							1		
Other parts of State	1,012,328	1,085,886	585	55	8	14	1	13	6	7		12	9	4	50	60	1
Total for State	1,751,395	1,979,658	1574	155	28	59	5	40	19	13	...	21	15	21	195	132	5

*No report received. Health officer not doing his duty.

162 Still births and premature births, not included in above totals

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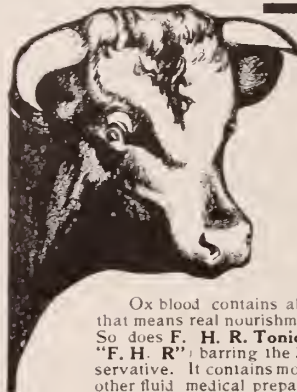
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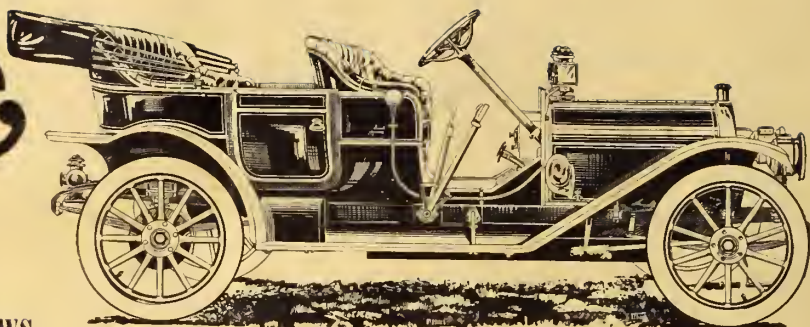
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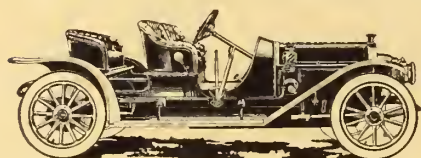


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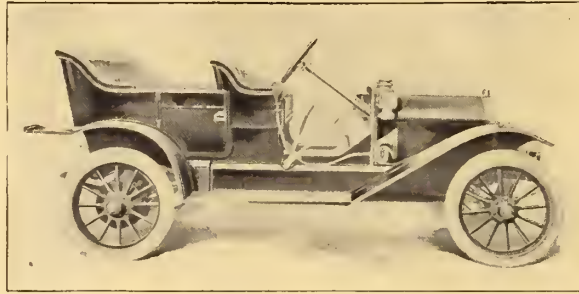
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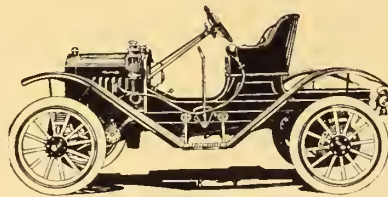
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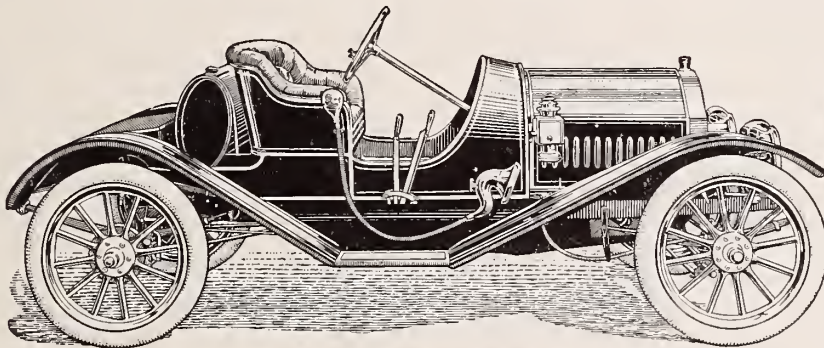
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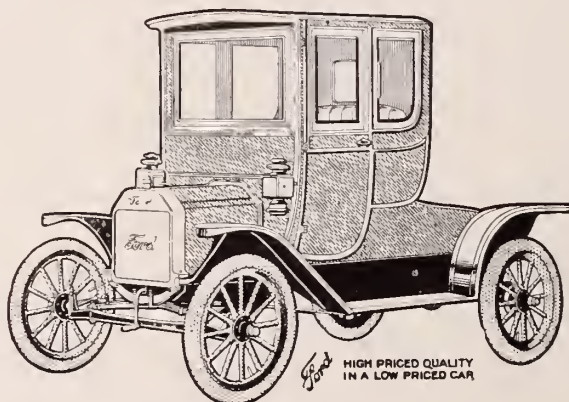
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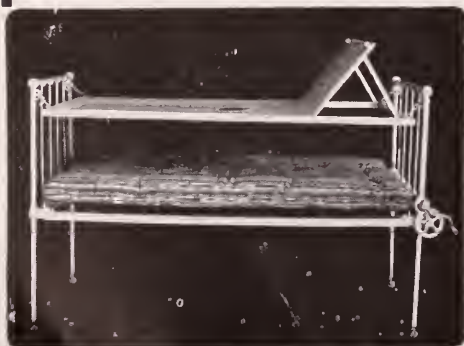
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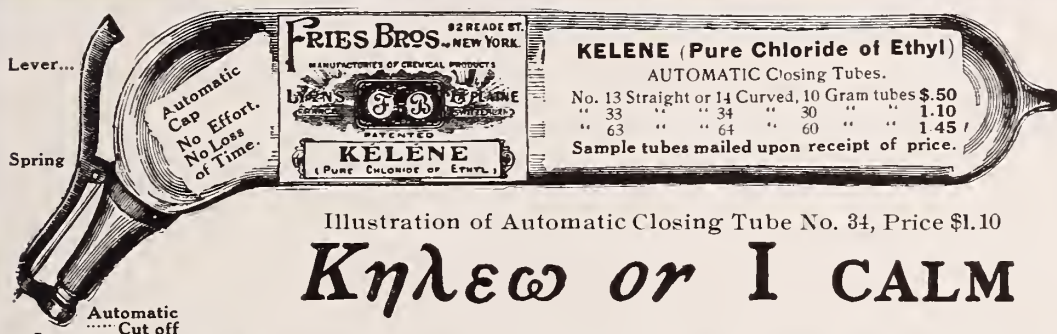


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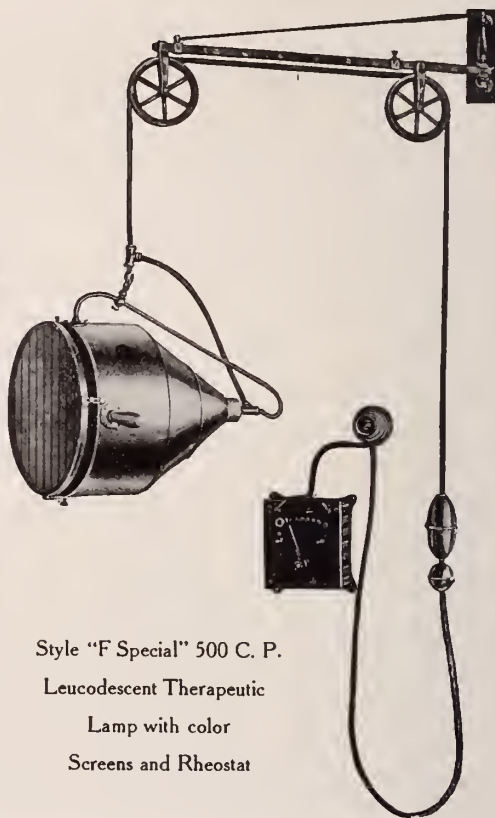
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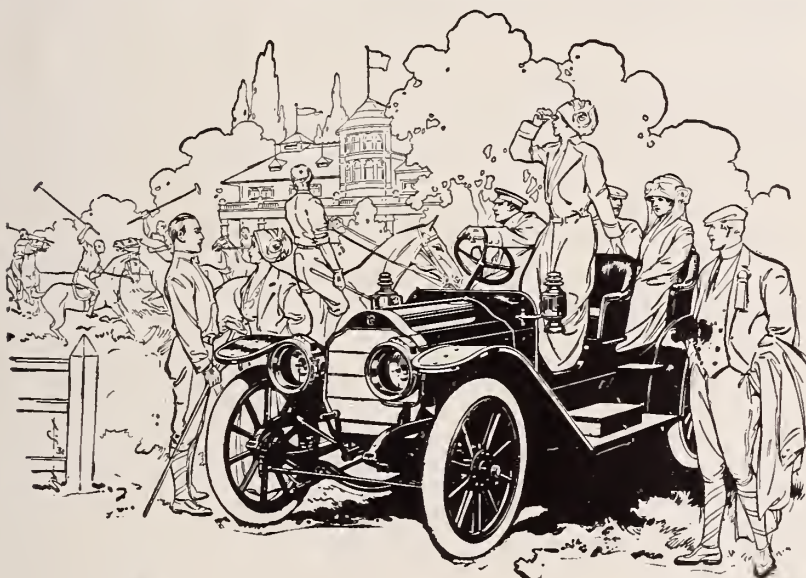
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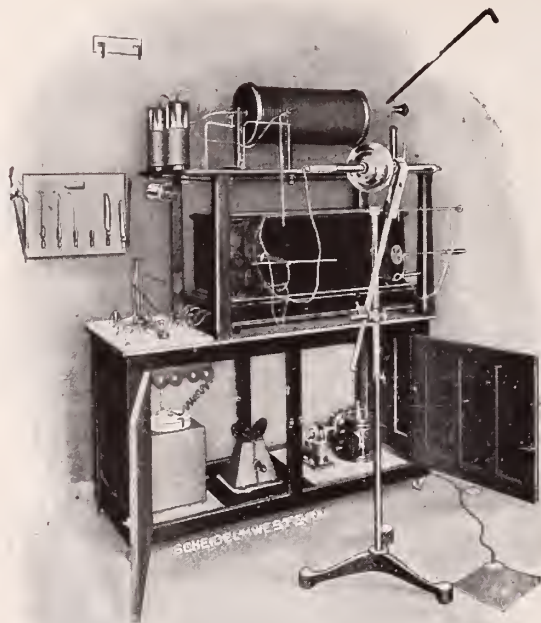
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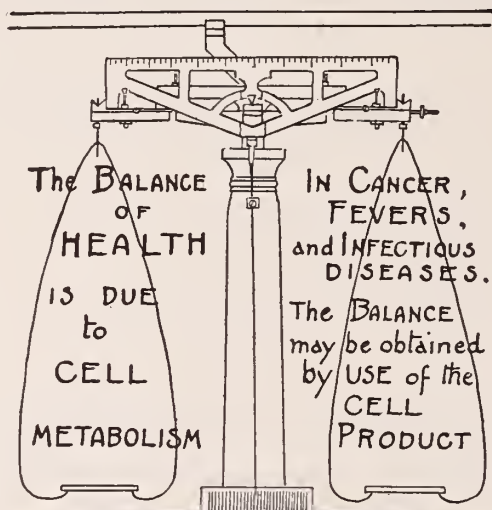
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NEPHROPEXY: A BRIEF CONSIDERATION OF THE SAME, AND THE AUTHOR'S METHOD OF PERFORMING THE OPERATION*

By WALTER COURTNEY, M. D.

BRAINERD, MINNESOTA

Practically, a movable kidney may be defined as one that descends well below the ribs and forward toward the anterior abdominal wall. Permissibly, we might speak of such as pathologic, movable kidney. Lesser degrees of movability, usually, are not of serious importance and are rather unlikely to demand an operation for nephropexy.

For several years past a considerable number of surgeons have been inclined to ignore the claims of "pathologic," movable kidney, and to deny their patients the relief which modern surgical procedures might competently give in certain well-indicated cases. The reasons given have not always evidenced the best of logic. In refusing operation and denying the usefulness of nephropexy, it has frequently been stated that "movable kidney is but an evidence of general abdominal visceroptosis." That this sweeping statement, with which so many patients and their miseries have been dismissed, may be applicable to certain cases and contain some truth, we have no wish to deny. Another discouraging statement, not infrequently voiced, is "operations for fixation of movable kidneys are often failures." Were this all of the argument on the subject there could be very little excuse for proceeding farther; but it is not. While we frankly admit the existence of certain cases where movable kidney would seem to be only a prom-

inent symptom indicative of extensive visceroptosis, we claim there are many others existing either as pathologic entities, or dependent on associated local diseases, or with resultant mental disturbance that require scientific, therapeutic aid of the surgeon. We are quite inclined to agree with any surgeon who might maintain that nephropexy is not indicated in a case of symptomless movable kidney existing as the result of a general visceroptosis. In the main, these are the cases that receive little or no benefit from, and frequently relapse after, operation.

The question that naturally arises is, "In what cases of movable kidney should nephropexy be performed?" Answering, in a general way: It should receive, at least, fair consideration in any case where its existence is not the simple concomitant of a general visceroptosis. Speaking in a more specific manner, nephropexy should have urgent claims to recognition in cases of renal crises, intermittent hydronephrosis, traumatic dislodgement, and in cases where the condition is responsible for marked mental unrest and distress, and perhaps in other instances as well. In cases of chronic appendicitis, associated with movable kidney, both conditions may, and frequently should, be surgically dealt with at one sitting and through one incision in the lumbar region. This is true also, as regards exploration at least, in associated diseases of the bile-tract.

It is not the writer's intention, nor purpose, to discuss causes, symptoms, and diagnosis of

*Read before the North Dakota Medical Association May 11, 1910.

movable kidney, but, incidentally, he begs leave to simply call attention to occasional, associated difficulties in connection with the diagnosis. Perhaps the brief mention of a case occurring in personal practice quite a number of years ago, may serve, in a general way, to illustrate what is meant.

A lady, near middle age, had suffered for years with frequent attacks of severe pain in the right hypogastric region, and had received professional attention of others before coming under the writer's notice. There was a very perceptible tumor present in the right hypogastric region, which could be moved upwards, to some extent, but not made to disappear entirely under the ribs. The past history, as obtained, was suggestive of disease in the bile-tract. An anesthetic was given to aid in a diagnosis between a movable right kidney and cystic gall-bladder. The findings were in favor of the latter. Operation through the right rectus disclosed nothing wrong with the gall-bladder or bile-ducts, but made a movable right kidney very evident. Dietl's crises then seemed to be the explanation of her past suffering. Nephropexy was performed, and the patient has remained well and free from pain ever since.

We shall now direct our attention to the operation of nephropexy. In doing so we shall only briefly refer to three plans for fixation: First, adhesion between the convex surface of the kidney and the rawed opposing surface of the quadratus lumborum muscle; second, suspension by the fatty capsule, and, third, suturing through the abraded or reflected fibrous capsule,—capsule proper of the kidney. While there have been many other methods, they have been either too difficult of performance, too much fraught with serious injury of the glandular structure, or too fanciful to merit serious attention.

Of all the methods hitherto evolved that of Edebohl's is, perhaps, the most commendable. The writer's technic, to some extent, is a modification of the latter.

The lumbar incision, from the twelfth rib to the crest of the ilium, external to the erector spinæ muscle, is usually the one of choice. Muscles and fasciæ should be riven apart, in the direction of their fibres, rather than cut. This will tend, not only to lessen hemorrhage, but to spare the ilio-hypogastric and ilio-inguinal nerves from serious injury. The fatty capsule, when reached, should be removed to an extent equal to the size of the kidney, and the remainder

separated to the pelvis of the organ. At this point, if it be desirable to examine the appendix or the bile-tract, an incision may be made through the peritoneum in front of the kidney. With a portion of the fatty capsule removed and the remainder separated, it will not be very difficult to deliver the kidney outside of the wound. The doing of this was a decided step in advance in the performance of nephropexy, as it permits ready examination, by palpation, of the pelvis and proximal ureter, as well as better placement of the fixation-sutures. A transverse incision, one to one and a half inches in length, is made at each pole of the kidney, well over the curvatures, and these are joined, in the form of a capital letter I, by a longitudinal, median-line incision made on the convex surface of the kidney. The outlined flaps of fibrous capsule are reflected well downward on the lateral surfaces of the kidney, where they remain undetached, and are folded into a cord or ligament and so maintained by a whip-stitch of ten-day catgut. Four Pagenstecher linen or thirty-day catgut sutures are now placed at or near the four ends of the newly constructed cord or ligament. These sutures are inserted through the fibrous capsule, behind the ligament, over which a turn of each suture is made at a distance of about half an inch from the point of first insertion. The two ends of each suture are grasped separately by catch-forceps. The kidney is now partly returned within the wound, and the incised edge of the fatty capsule is brought forward and sutured to the fibrous capsule, *below* the newly constructed ligament, with fourteen-day catgut. The sutures may be interrupted at intervals of about three-fourths of an inch, and should surround the circumference of the opening in the fatty capsule. The kidney is now completely replaced within the body, and, by means of needles, the two upper linen sutures, previously placed behind and around the ligament, are passed through the muscular and fascial planes only, of the abdominal wall, external to the incision and as near the twelfth rib as may be conveniently possible. The ends of each of these two sutures are again grasped in catch-forceps until the two like sutures below have been similarly placed, when all are tied sufficiently snug to raise and maintain the denuded surface of the kidney in close apposition with the rawed surface of the quadratus lumborum muscle. The wound, or incision, is now closed in the usual tier-suture manner and without drainage.

What features recommend this operation or technic? (1). The use of the ligament and linen sutures (the latter so far have never caused me any late troubles) insure a prolonged and perfect apposition of the denuded surfaces of the kidney and quadratus lumborum muscle until firm and close adhesion takes place between the two,—the thing on which we must ultimately depend for a permanent nephropexy. (2). The suturing of the fatty capsule to the fibrous capsule below the ligament, prevents interposition of fat and consequently permits sound healing throughout the wound, while, by its later contraction it is enabled to perform its old-time office by closely enveloping the kidney.

The early effects of the operation are practi-

cally threefold: (1) adhesion of the kidney to the abdominal wall; (2) complete suspension and fixation, by means of the fibrous capsule, and (3) supplemental support, by the fatty capsule.

The use of this technic, in a considerable number of cases, during the past several years, has given me entire satisfaction. Recently, I had an opportunity of observing its actual efficiency. In performing a nephropexy by the method hitherto outlined, a small calculus, either in the pelvis or upper ureter, was overlooked, and some months later a severe hydronephrosis developed. Drainage was effected through the original wound. The kidney was found absolutely fixed in the position where it had formerly been placed.

THE NECESSITY OF INSTITUTIONAL CARE FOR THE TUBERCULOUS*

By E. L. TOUHY, M. D.

Chairman St. Louis County Sanatorium Commission.

DULUTH

Your county has a population of approximately eighteen thousand (18,000). Each year more than 2,000 people die in our State from tuberculosis out of a population of a little over two million, in other words, about one victim per year per one thousand of population. While definite statistics of all the deaths are not now fully available, you have, on the above basis, fifteen deaths a year from tuberculosis. There are five active cases of the disease for every death; you have, then, on very conservative estimates a tuberculous population of seventy-five. It is my personal belief that you have fully twice that number who need supervision. The problem is how to best get it. That you are a rural community adds greatly to the interest of the work you are doing, and are about to do, and ultimately should point the way for the many other rural counties of the state. Your realization that you must enter upon this work speaks for your intelligence, as does your full knowledge of the fact that the country life and farm work of most of the citizens of your county do not in any way emancipate them from the ravages of the dread disease we are discussing; that the so-

called simple life of the farmer, his freedom from care, and salubrious environment are chiefly known through the poetical license of tourists and correspondents who know more about farm products than farm life.

It would be of the greatest value to the cause in general if you should, in your preliminary work, organize an active committee in affiliation with the State Association and find out in a systematic way the actual number of people living on farms who are tubercular. Unless my own experience of twenty years' residence on a Minnesota farm leads me to a false conclusion, it is true that, per population, more farmers are overworked, under-fed, improperly housed, and more grossly exposed to tuberculosis than those so-called denizens of the "crowded cities."

It is getting tiresome, it has been said so often that everything on the farm is conserved except the farmer and his family; the Agricultural Department at Washington teaches the etiquette due the plant and animal folk; the farmer is too busy carrying that out to do anything for his children. There are a few hopeful signs to be observed. The farmers' wives can now get departmental bulletins telling them how to cook—it is to be hoped that many of our rural housewives

*Read before the Wabasha County Medical Society, July 10, 1910.

will order such bulletins—and the farmer's house is of late being brought up to the standard of the buildings erected for his stock.

Much of the popular literature appearing in magazines and pamphlets is misleading, if not actually harmful, in that it gives a false sense of proportion and emphasizes non-essentials. It tells of the well-known and established facts concerning tuberculosis, the great number afflicted, and the wide distribution of the germs of the disease so widespread in fact that no one can possibly hope to avoid them, and it is said the only sensible thing to do is to develop individual resistance, become germ-proof, live the simple life, and to many of the uninitiated this means a return to the farms and rural conditions. That this is pernicious doctrine no one cognizant of the facts can deny. It is the province of your local organization to teach the truth and direct the well-meant enthusiasm rightly.

Farms can be made the most healthful for the proper rearing of children, and possibly with little effort, but, nevertheless, that effort must be expended.

We are dealing with a communicable disease,—one that can come only in one way, and that is through contact with the living tubercle germs. Now, why accept that statement without restriction, and then brush it aside in the next breath and state that we never need fear the germ as long as we remain robust, physically strong, and germ-proof? Speaking broadly, and diverting somewhat from the subject, physical prowess is accorded far more than it deserves in the avoidance of disease. Well-developed muscles may protect a man from his fellows (although it cannot be gainsaid that fleetness might do as well), but they will never keep him from getting a vigorous attack of typhoid or pneumonia. Indeed, it is proverbial that the so-called human "scrubs" carry off the honors in living through attacks while the vigorous burn themselves up in the very excess of their struggle against the invader. The number of college athletes who develop tuberculosis even, has often been commented upon. One of the greatest tragedies of life is to see the vigorous athlete or gymnast fall a victim to arterial degeneration or over-weight at an age when he is just getting able to serve his family and his country the best, while his dyspeptic college chum who never had any muscle goes on serenely and dies of lonesomeness in a generation that knows him not. Speaking specifically of tuberculosis, the truth has been obscured by the fact that while abundant proof is at hand

that the only way to subdue the disease,—keep it latent, and arrested, is to stimulate vital activities;—for those already infected this is the great rock of hope—the mistake is made in depending upon those measures for prevention, because we are coming to know that most of the tubercular infections that finally develop into active open cases occur in childhood, at the time when the child is so grossly exposed to open cases in the home. Scarlet fever will not spare the rosy-cheeked child, and it is time to realize that tubercle bacilli will be deposited in his glands and in his lungs or bones, regardless of his vitality. It is useless to talk to the child about keeping up his "resistance," and yet I may say, in passing, that you will get as good a response from the child as from the average adult. A certain small number of children are going to be infected by milk or exposed in school rooms, but fully 90 per cent who are infected will show on investigation that it happened *in their own home*. Having infected the child the germ desires only to make him its host, and death of the victim is not its mission. Once having established itself the history of tuberculosis is one of long periods of latency, remission, and recrudescence, dependent upon the physical burdens thrust upon the afflicted and his social environment. A cure is possible and frequently occurs, for 90 per cent of the cases at autopsy dying of all causes show healed lesions of tuberculosis. But it must not on that account be overlooked, that well-developed *open cases* are quite different, and that with them "cures" usually prove to be "arrests," and it may even be that from the standpoint of the bacillus these arrested cases are its best friends, enabling it to survive and transmit when an early death of the victim could only cut short the production of its endless progeny.

This extremely long association of the bacilli with their host has induced a familiarity that "breeds contempt," and is the chief reason why tuberculosis is so widespread, causes such fearful havoc, and yet has met with so little organized opposition. More recently has appeared the added danger spoken of above, that "any way the disease is easily curable with the most simple and primitive measures," when, as a matter of fact, no affliction is harder to manage, to subdue, or control.

Since we are speaking today chiefly from the stand to be taken in a public way, we may emphasize the fact that it is relatively easy to institute police measures against such diseases as scarlet fever or small-pox that have a definite

clinical course and terminate in a relatively short time, in either recovery or death, and always with the complete eradication of the infecting agent. But there is no definite association between the pathological and clinical manifestations of tuberculosis. It is usually present long before active symptoms appear, and, unfortunately, remains latent long after they subside. The patient is not bedridden and mingles freely with his fellows, and the mother or older sister carries on her household. The opportunities for distribution of tubercle bacilli are so numerous and so evident and exist for so long a time that it is no wonder that we approach the problem of the supervision and isolation of the consumptive with misgivings and fearful of the magnitude of the task. Police measures seem out of place, yet that is exactly what we must approach, and it is in this connection that the great value of the public sanatorium for prevention and cure is manifest. Indeed, it would seem that all quarantine for contagious or communicable disease is illogical. Broadly speaking, a community should be held responsible for the preventable diseases it permits its residents to have. This principle is recognized in an indirect way when cities spend huge sums of money for proper water-supplies. To quarantine a family with scarlet fever and make the victim pay for the *full* protection that is afforded the rest of the community is unfair, and the only reason that it is tolerated is because the period of such isolation is relatively short. Tuberculosis induces long illness, greater and greater reduction in earning and working capacity, and the inevitable alliance with poverty, which is more often a result than a cause of the disease. It is easy, then, to understand that not more than 15 per cent of the tuberculous are able financially either to care for themselves or to properly conduct themselves so that your children may not be endangered. Your county cannot afford not to meet this obligation and provide a proper sanatorium where your cases, and especially your advanced cases, may be properly isolated and treated, giving them the only proper chance they may have for their lives, and preventing the infection of another generation of children in the homes. The institution alone is not going to offer the full solution of the problem, but it is an absolute essential, in order to permit your other agencies to work a maximum of good.

It has been argued that you can do more with a visiting nurse, and with the supervision of the consumptive in his home. That this is not true

has been proven time and again, and is the opinion of every nurse trained in the work. It is asking too much of a nurse to assume the obligation of making the ordinary consumptive a safe associate for the rest of his family; the usual home does not permit of the requisite arrangement; supervision cannot be sufficiently consecutive and insistent; only a few can be taught how to act, and all may forget how. Neither can we delegate the treatment of the patient to the nurse, with large blanket directions; the consumptive's chances of getting well are bad enough even under the care of the especially trained physician. To carry into the homes in a quiet unostentatious way the message of education and hope; to place the untrained and uneducated sick where they may learn how to live and continue to live—in a word, to remove them from the home; to then insist that the rest of the family be examined and bring them to the family physician; if some are found that are suspicious to utilize their home resources to keep them well;—these are the things that can be done only through a nurse, and in those ministrations will she find a congenial field.

Under the county sanatorium enabling act passed by the last legislature you are empowered through your county commissioners to provide the proper place for your consumptives. In St. Louis County we have taken this step and have now advanced to the point of the choice of a site and the preparation of plans. I may simply state that we have started with a three-fold purpose:

1. To relieve the home of centers of infection regardless of the stage of the disease.
2. To develop in the county a center for the intelligent exposition of all that is modern and useful in the campaign of prevention and relief.
3. To co-operate with all existing agencies.

These may be summarized under relief, education, and co-operation. To simply provide a place for consumptives is only a makeshift. Even the advanced cases will not all die, and many will insist on going back to their homes and work. Unless, while under supervision, they have been properly trained, educated, and disciplined, they will become as dangerous as before and have to be again rescued at great public expense. To do all for the patient that is absolutely necessary, in order that the *public money spent* may yield the *maximum of efficiency*, requires all that is best in the art of institutional management, medical care, and nursing. Therefore do not plan any make-shifts.

or any adjunct to any other existing hospital, but build individually and have an institution with proper ideals and equipment.

At present writing it is impossible to state just what is the best solution of the various local problems that will arise. In drafting the sanatorium enabling act it was provided that two or more counties might co-operate, in order that the smaller counties might join in the erecting of a set of buildings of proper capacity. Studies made by Jacobs of the National Association show that units of sixty to seventy-five patients are the most economical of administration. Fortunately, all the men in the work are inclined to disapprove of the large units in which the personal relations of the superintendent and the patient are minimized, and the former has his time and efforts taken up in the maze of necessary bookkeeping and administrative turmoil. Then, we should have in our state many local institutions planned to care for all types of cases, particularly the advanced, near the homes of the afflicted. I cannot see the force of the argument that you do not wish to co-operate with other counties because some of your money might leave the county if the institution chanced to be located in some other county. If you stop to think, your money has been leaving the county for a long time for diverse and sundry necessities and luxuries that must be secured from outside. It might be well to look into the sum that is going out yearly for patent medicine, and stimulate home-pride and confidence in your local distillery.

Our Commission in St. Louis County is taking the advice of those long in the work, that the man in charge of the sanatorium bear in himself the possibilities either for success or failure of the work instituted. For that reason it seemed only fair that we secure the services of the right kind of a man and permit him to carry out the detail work of the Commission before the site is chosen, during the stage of construction and all, just as he will afterwards. It is already apparent that we are getting much from this move, and far more than saving the extra expense in added efficiency, if not in actual economy. When finished the man who has to make good in the institution will not be handicapped by a long series of mistakes made by well-intentioned but misinformed commissioners who lack specific training and information on up-to-date details. The value of a man properly trained in our best institutions, with the right attitude toward the social aspect of tuberculosis, cannot be overesti-

mated. It is equally true that a man trained only in general practice is unsuited temperamentally and scientifically to get the best out of the institution for his patients. Trudeau has made Saranac Lake Cottage Sanatorium what it is today, and in fact has made modern sanatoriums possible. Lyman is worth more to Gaylord farm than all their expensive equipment. It is only too true that the profession of medicine is still continually giving up some of its members to the same dread plague under discussion. Some of these men are seeking health and refuge with such men as Trudeau, Lyman, and others. After they have become arrested cases, these men have the very training and temperament to make them ideal sanatorium executives. In the case of Wabasha County it is too early to thus discuss details of management; but the time is ripe for you to come out strongly and urge your county commissioners to levy the four-tenths of a mill tax. Make a start, and with a wide-awake commission it will be found that ways and means will be devised to best equip a plant. In the meantime it is to be hoped that many other communities will take up the same work; that a statewide campaign may be not only started, but, what is more important, kept going; the next generation of children must be protected. Let us not be discouraged by the fact that real results are not going to be apparent for several years. It is painfully apparent that the present crop of consumptives are, in the main, going to die of their affliction. Neither let us be discouraged by the lack of interest of the public. It is not unusual to hear some one remark that some of the public are not worth saving. This usually is heard after interest has been temporarily aroused, and then lack of action follows. The answer to all this may be that what is novel today is commonplace tomorrow, and some of us may live to see the time when the present lethargy toward the problem of tuberculosis will be one of the inexplicable facts of history.

CONSTIPATION AND TOXEMIA

J. George Sauer, New York, states that we know that the pabulum contained by the gastrointestinal tract is at first sterile, then becomes the home for the lactic acid bacillus, the bacillus coli, and the bacillus bifidus, all of which are harmless as long as they remain in the intestine, and struggle against the pathogenic bacteria which enter the intestine. The lactic acid bacillus multiplies and propagates at the expense of the carbohydrates.—Medical Record.

THE TREATMENT OF VARICOSE ULCERS*

By JAMES E. MOORE, M. D.

MINNEAPOLIS

Most ulcers of the leg, except those due to syphilis and malignant disease, may be classed as varicose ulcers, for when they are not caused by a varicose condition of the veins originally the veins usually become enlarged after a time and tend to make the condition more chronic.

Many methods of treatment have been employed with varying degrees of success, but with most of them the results are anything but satisfactory, ending either in failure or speedy relapse after healing. The older methods were usually by the application of ointments which were very often disappointing. A few years ago various operative measures such as curetting and cutting away the hard margins, followed by skin-grafting, were frequently resorted to, but with far from satisfactory results.

For a number of years I have followed the method about to be described in this paper with such unvarying success that I can conscientiously recommend it as being vastly superior to the methods just mentioned; in fact, the results have been so satisfactory that I have taken real pleasure in treating these cases, instead of dreading to see them as I did under the old regime.

The principle of this treatment is mild medication combined with continuous pressure. Pressure has long been advocated for the treatment of ulcers, but, unless systematically and persistently carried out, will fail. Pressure by means of a roller-bandage if kept up long enough would doubtless yield results, but it is so slow that both surgeon and patient are apt to become discouraged and abandon it. Pressure by means of a rubber bandage was at one time extensively employed, but it was uncomfortable, bad smelling, and apt to lead to excoriation or eczema of the skin, so that it is no longer popular. Pressure by means of properly adjusted strips of adhesive plaster I have found will yield most gratifying results. The ordinary rubber plaster of commerce is just as efficient as the more expensive varieties. With the average ulcer all the preparation necessary is a thorough washing with soap and water before applying the plaster. A painful or so-called irritable ulcer should be swabbed over very thoroughly with ninety-five per cent carbolic acid, repeated several times at intervals of three or four days, before applying the adhesive strips. The carbolic should be followed in about two minutes by alcohol, after

which a gauze dressing should be applied. This treatment will relieve the pain and sensitiveness in a very few days, so that the pressure can be applied without causing pain. When there is eczema about the ulcer this should be healed by the usual methods before applying the adhesive plaster. These have been the most difficult cases to treat, in my experience, for after the eczema is healed it is liable to break out again after the application of the adhesive strips, but by persistent effort even these have usually yielded to the treatment.

In cases of annular ulcer involving the whole circumference of the limb the only successful treatment is amputation. They are very difficult to heal, and when healed promptly relapse. I have had two such cases in the past year and in both cases the patients had been incapacitated for so long and had suffered so much that they were easily persuaded to submit to amputation.

After washing and shaving the leg it should be held horizontal by placing the heel on the seat of one chair while the patient is seated upon another. The ulcer is then covered with dry calomel so that the cavity is filled level with the skin. Beginning at a point about two inches below the ulcer, strips of adhesive plaster from an inch to an inch and a half in width should be applied around the limb, so that the strip above overlaps the one below about a quarter of an inch, like the shingles on a roof. A sufficient number of strips should be applied so that the upper one extends two inches above the upper edge of the ulcer. They should be applied firmly, and flat against the leg, so that one edge does not press into the flesh. They should not completely encircle the leg, but should leave a strip of uncovered skin along the back about an inch wide. A roller-bandage should then be applied from the base of the toes to the knee. At first it is necessary to change the dressing every day for the discharge from the ulcer mixes with the calomel, forming a thick paste which oozes out between the adhesive strips, and unless changed this often irritates the skin, loosens the straps, and acquires an offensive odor. In a short time, however, the amount of discharge diminishes, and the strips can be left on two or three days, the length of time being regulated by the amount of discharge. In a very few days the granulations begin to assume a healthy color, and a blue line of new skin

appears around the edge of the ulcer. The progress is usually most gratifying, and after the discharge has diminished so that the dressing requires changing only every third day the patient can see the improvement that has taken place between dressings. I have seen a large ulcer which had persisted for years, completely heal in three weeks, although it usually requires a longer time.

In very severe cases the patient is very well content to keep off of his feet during the early part of the treatment, and this is greatly to his advantage, but in the average case he can go about his business more comfortably than he could without the support of the dressing. The dressing should be worn until the new skin has become firm, after which an elastic stocking should be worn for a time. Poor patients can make a very good substitute for the elastic stocking out of flannel torn on the bias and made into a roller-bandage. When there are many large varicose veins they should be removed before the treatment of the ulcer begins, but of the

many patients requiring treatment for varicose ulcer only a few require operation on the veins. With the use of the elastic stocking relapses have been very few in my experience.

This treatment is very simple, but every part must be carried out in detail to secure the desired results. The calomel seems to have some medicinal effect aside from its action as a dusting powder, for no other powder seems to do as well. If the adhesive strips are too wide they do not make so good pressure and do not permit proper drainage. If they are too narrow they stretch and do not maintain the requisite pressure. If they are too short they fail to make proper pressure, and if they are too long they completely encircle the leg and interfere with circulation. One of the truisms of surgery is that pressure promotes absorption. In this treatment the adhesive straps cause the absorption of the inflammatory deposits about the ulcer, and support the dilated blood vessels enabling them to perform their function properly, thus bringing about a cure.

THE THIRTY-SIXTH CONGRESS OF OPHTHALMOLOGY IN HEIDELBERG

BY HOWARD McI. MORTON, M. S., M. D.

Eye and Ear Surgeon to the Minneapolis City Hospital, The Wells Memorial Clinic, and the Swedish Hospital
MINNEAPOLIS

Nestled in the beautiful valley of the Neckar is an old and historic town, toward which, on August 3d, I journeyed from Munich, in order to be present at the 36th annual Congress of Ophthalmology.

How delightful it is, "detached" from the arduous duties of practice, amidst the myriad attractions of the Old World, to live in the delightful present, with a train of pleasant memories past and a host of anticipated pleasures constantly before one.

The medical man has all the opportunities for the enjoyment of art and music, and the life abroad, within the ken of the ordinary tourist, and the added one, the greatest, of visiting the hospitals wherever he may go, observing and comparing the methods of his brothers in medicine and surgery, and delighting in their hospitality and good fellowship.

Charming "Alt Heidelberg" consists of a few more or less parallel streets stretching along the dreamy old Neckar, which winds under the very shadows of the pine-clad mountain ridge to the southward. There are grander scenes for the

traveller, but none more charming than the view from the historic old Schloss, high up on the mountains above the town, looking down over the town itself and along the Neckar valley. Heidelberg in beauty of environment and historic interest has few towns to compare. The old castle, probably the best preserved ruin in Germany, has stood for over seven hundred years, and was, for the most of this time, a center around which contending armies fought. Its university, after the Universities of Prague and Vienna, is the oldest in the German-speaking countries and has an enrollment of about thirteen hundred students. Everywhere one sees signs of student life, for Heidelberg is a student town. The evidence of the duel is omnipresent. I should say, to paraphrase the old saying about syphilis in Vienna, that, in the light of the duel, there are three sets of students: those whose faces are already scarred, those being scarred (and covered with dressings), and those to be scarred. I got into a debate on this matter with a sentimental young wife of one of the members of the Congress and soon found

myself treading on thin ice, or rather, it being summer, on delicate ground, for the scar on the student is a sacred object, and not to be profaned by the criticism or doubt of the "Ausländer." Duelling is just as prevalent in Bonn, Munich, and other university towns. In this city of about thirty-five thousand people the Heidelberg Ophthalmological Congress has convened annually for thirty-five years, the meeting of this year being the thirty-sixth. Heidelberg is, and has been a seat of learning—a statement evidenced by her university, her library with its valuable manuscripts, and her years of leadership in learning—and not a great and inviting hospital or clinical town. I presume for the former reason, as well on account of its many charms, the Congress has been drawn here year after year.

Leaving Munich about noon on a comfortable "Schnell Zug", passing through quaint old Augsburg, with its memories of the Fugger family, Ulm with its famous spire, and Stuttgart, the capital of the Kingdom of Wurtemberg, I arrived in Heidelberg in time for the preliminary social evening in the "Stadtgarten", an event precedent to the scientific sitting.

A few hours of pleasant "unterhaltung", with the renewal of old acquaintanceship, the listening to excellent music discoursed by the usually good German orchestra, and the proper appreciation of the good Heidelberg beer, gave to the hours winged feet, and the evening passed before we fully realized it had begun. The social proclivities of our Continental brothers are clearly shown by the early arrival of most of the membership, in order to participate in this preliminary social evening, in which the good fellowship is infectious and becomes more acute as the evening lengthens. After this meeting in the "Stadtgarten" small groups betook themselves to the various "Kellers" for which this old town in the beautiful valley is so famous, and justly so. The blood-pressure of a man to whom the old "Zum Ritter" or the "Perkeo" have no meaning, must be dangerously low. Here, "over the cups", which happens to be steins in this case, *Rex Convivii* is not sole monarch, for the ready ear catches much of ophthalmological interest, and many ideas gain the stamp of currency that are not aired in the formal sessions of the day. The Board of Directors met at the residence of Prof. Leber the evening before the Congress opened. Papers are accepted from members and from those introduced and vouched for by members. While naturally German is the language of the Congress, it is permissible to pre-

sent a paper in English or French, since most of the members understand English and speak it fluently.

The sittings of the society take place in the music chamber of the "Stadthalle," or town-hall, and are from 9 unto 12 A. M. and from 3 to about 5 P. M. For each of these sessions there is a different chairman, thus dividing the honors of leadership, while Prof. Dr. Wagenmann was the permanent secretary. Prof. Leber of Heidelberg, Sattler of Leipsic, Swanzey of Dublin, Stock of Freiburg, and Prof. Purtscher of Klagenfurt presided over the different sittings. Forty-eight papers were presented, allowing but an average of about fifteen minutes for each. In addition there were twenty-five demonstrations in the hall adjacent, some microscopic, some macroscopic, and others of new instruments or of new methods. This very large program caused some haste, since some of the papers far exceeded the time limit; in fact, upon adjournment some ten or twelve papers remained unread. Under such circumstances the chairman sometimes requested expedition, and occasionally halted the reader. The persistency of our Teutonic colleagues, under these restrictions, was at times amusingly illustrated. In one case, admonition and emphatic protest not availing, a loud clap of thunder pealing from the clouds, brought forth the sally from one of my neighbors: "Ein Spruch von Himmel," which, although it caused great laughter, did not stop the reader.

About one hundred and seventy-five attended, and both papers and discussions were learned and interesting, much of the work being original, or along original lines, and accompanied by lantern demonstrations. The attendance, with the exception of three Americans and about the same number of Englishmen, was composed of Germans and French. Ireland was represented by the distinguished oculist, Sir Henry Swanzy, the author of what is perhaps the best manual on eye diseases ever published. Sir Henry was honored with the chairmanship during one of the sessions. A delegation of six or seven Japanese were regular attendants upon the sessions. They all spoke German,—such as it was,—and I really believe one of the most marvelous, and at times exciting, experiences one can have is to speak German with a Japanese.

I was much interested in papers by Fleischer of Tübingen and Franke of Hamburg, describing a heretofore undescribed inflammation of the conjunctiva, superficial in character and of a

greenish coloration. Groenouw of Breslau read a paper on the action of atropine and of eserine on the eyes soon after death. By carefully prepared charts he showed the relative and antagonistic effects of the two drugs for many hours after death. Landolt of Paris read a plea for the correct formation of ophthalmological nomenclature. I recall with interest the two papers of Uthoff of Breslau and Behr of Kiel on visual disturbances and changes in the optic nerves connected with "Turnschadel." Uthoff showed that these cases are traumatic and the foundation for the pathological conditions, within the nerve and the bulbus, laid immediately at the time of trauma by the sudden pressure of the cerebral fluids along the nerve-sheath. The afternoon sitting of the second day was given over to demonstrations, when some very interesting microscopic and macroscopic specimens were shown, as well as some excellent apparatus designed by members. Stroschen of Dresden showed his steam sterilizer for sterilizing cutting instruments. He is very ingenious and said to me laughingly, "Don't you think I am somewhat of a Yankee?" His instrument for use in the advancement operation is well known. This operation is spoken of as a tucking operation, but, in fact, is not such at all, being an excision, pure and simple, the so-called "tuck" being entirely abscised.

I regret that the limits of this paper preclude the going into greater detail, and the mentioning of many papers quite as interesting, especially when I recall the discussion on the relative pathology of trachoma and the group of gonorrheal ophthalmias. This lasted to some length, was very animated and instructive, and alone is worth the cost of the volume of proceedings. It was a pleasure to hear such men as Haab of Zurich, Axenfeld of Freiburg, Elsching of Prague, Morx of Paris, and a host of other names distinguished in ophthalmology. There were also those conspicuous by their absence, namely, Fuchs of Vienna, who usually attends, my old professor Greef of Berlin, and my friend Dr. Eversbusch of Munich, the mention of whose name causes me to digress a moment in order to speak of an important work of his, as yet unknown, but soon to appear in the *Deutsch Med. Wochenschrift* on the effects of blood-regeneration after phlebotomy—upon incipient cataract, cyclitis, and central retinitis. Eversbusch has pursued this work for twenty years, and without any formal reports upon it to the present time. Dr. Gilbert, his second assistant, has been a co-laborer with Prof. Eversbusch in this work. For each kilo of body-

weight two and one-half to three c. c. of blood is removed. Thus in a patient of about 180 pounds about 215 c. c. of blood is withdrawn. Immediately there is clearing of the vision and diaphoresis (no drugs are given, the diaphoresis resulting solely from the change occurring in the process of blood-regeneration). At the end of twenty-four hours there is again free diaphoresis, and again at the ends of forty-eight and seventy-two hour periods. This symptom, as well as the immediate effect on the visual acuity, is found in almost all cases.

To revert to the Congress: Gullstrand of Upsala described a new model of reflecting ophthalmoscope. Most of the great continental clinics have one or the other of the several models of these instruments, but to me they have only a small value in practical work. The power to explore the fundus from the ora serrata to the nerve-head is lacking, although the magnification is great and the picture beautiful. Speaking of instruments reminds me of the very excellent display made by the leading German firms. Windler of Berlin showed a new space-saving refraction apparatus that I could not withstand, as well as a beautiful steam sterilizer for sterilizing cutting instruments. Wurach of Berlin, Erbe of Tübingen, and Walbe of Heidelberg, showed excellent instruments, which can be purchased at very reasonable prices.

After each of the afternoon sittings short "Ausflüge" (excursions) were taken, after which occurred a common evening meal in the town-hall. At six o'clock on August 4th a more formal banquet took place in the ball-room of the town-hall, at which about a hundred and fifty members and their wives gathered. After the third session an excursion was taken to the Molkenkur, a point high above the old castle, from which one gains an admirable view.

While there was this generous mixture of the social side of life, I observed, however, in the sittings, a marked intolerance and impatience with any papers inaccurate or fanciful. The Heidelberg Congress has a high mark as its standard, and mediocre papers are not well received. The most of the papers dealt with matters pertaining to the pathology and bacteriology of the eye, but there were a few on serum-therapy and only one, a most notable paper, on refraction, by Rohr of Jena, relating to the prescribing of cataract lenses and the correction of post-operative astigmatism.

After four days the morning session of August 6th terminated one of the most interesting gatherings that it has been my good fortune to attend in either England, France, or Germany.

DIGITALIS

BY J. T. MOORE, M. D.

MINNEAPOLIS

While in most strongly acting drugs it has been possible to recognize and isolate the active principles, this question has not as yet been solved, free from objection, in regard to digitalis. It is generally conceded that among the glucosides which are present in this plant, there are only three active substances to be considered, namely, *digitoxin*, *digitalcin*, and *digitalin*, the fourth, *digitonin* exerting practically no cardiac effect whatever. On the other hand, it is just digitonin that, in the therapeutical application of digitalis, frequently leads to gastric disturbances. It should also be mentioned that, aside from digitoxin, the various authors do not agree as to what substances should be considered as glucosides. The uncertainty in this respect is so great that only very few practitioners have felt justified in employing any of these isolated substances. Above all, the fact should be considered that none of these glucosides are able to produce the typical digitalis effect in the same measure as the complete drug does with the combined action of all its glucosides.

The digitalis glucosides are combined with tannic acid; hence the name *digitannoids*. These compositions are better tolerated by the stomach than the glucosides alone. After these considerations it appears undoubtedly best to prescribe the digitalis drug as such.

For therapeutical purposes, wild-growing digitalis is used, preferably that which comes from mountainous regions. The difference in efficacy of the various digitalis plants is enormous. But not only is the glucoside content so variable, but the method and time of gathering the plant and the method of its preparation for therapeutical use further contribute to important variations. Even the dried leaves gradually lose in efficacy, so that the demand of many medical books, to preserve digitalis leaves for no longer than a year, appears fully justified. Of great importance, finally, is the method of powdering the leaves, it being a well-known fact that the stalks and strong ribs contain practically no glucoside. Generally speaking, therefore, there is no guarantee whether the inferior elements have been mixed with the powder or not. Digitalis powder being placed upon the market as such, it is extremely difficult to prove its strength.

Now, it is well known that the digitalis glucosides have the property to arrest within a certain time the systolic heart-beat in frogs, and there is such regularity in the production of this

phenomenon that the time when the systolic heart-beat is stopped, furnishes a reliable measure for the valuation of the digitalis drug. This test is made by us with *rana pipiens*, in Europe with *rana temporaris*.

Recently a new digitalis preparation has been placed upon the market which is likewise tested upon the frog as to its efficacy, but goes another step farther by trying to isolate the active digitalis substances in their entity and natural condition. While in the ordinary method of extraction, as well as in infusions, the free glucosides are obtained, the new method is capable of isolating the glucotannoids as such. This preparation, to which the name of *digipuratum* has been given, is at the same time to be regarded as a purified digitalis extract, it being free, not only from the inactive components of the drug, i. e., the extractive substances which may be regarded as ballast, but especially also from digitonin.

Accordingly, clinical investigations have corroborated the considerations which led to the introduction of this preparation. Clinical experience has demonstrated the fact that *digipuratum* is a digitalis preparation of energetic and prompt effect, of uniform efficacy, and consequently of exact dosibility. Gastric disturbances occur relatively seldom, certainly much less frequently than by the use of the drug itself. Of course, it is evident from the nature of the digitalis glucosides that, in spite of the removal of digitonin, these manifestations cannot be entirely prevented, especially in the presence of catarrhal stasis.

The first clinical investigations of *digipuratum* of any magnitude were made under the auspices of German universities, as for instance in Heidelberg by Professor Krehl, in Jena by Professor Stintzing, etc.

In this country, too, several authors have taken up the investigation of *digipuratum*. Thus, Worth Hale¹ demonstrated that the *digipuratum* powder, as well as the tablets, has the efficacy stated by the makers. Besides, several notices by Boos, Newburgh, and Marks² and Smith³ have appeared in the medical press, emphasizing the remarkable effect of *digipuratum* medication.

As I have used this preparation frequently of late with gratifying results I think it of interest to report some of the cases.

1. Worth Hale; Journ. A. M. A., Jan. 8, 1910.

2. W. F. Boos, L. H. Newburgh, and H. K. Marks, Boston Med. & Sug. Journal, Feb. 10, 1910.

3. Wm. H. Smith, Boston Medical & Surgical Journal, Feb. 10, 1910.

I had a patient who was passing through one of his spells, as he called them, embarrassed and irregular heart-action of tobacco origin. Before he had been using $\frac{1}{4}$ to $\frac{1}{2}$ gr. doses of spartein sulph., which acted very well. This time, however, I used the digipuratum on him. Unlike other preparations of digitalis, which I had previously used, it did not upset the digestion. Twice only he felt a little hyperacidity after a tablet. I found the result more permanent than the spartein. He did not take more than three tablets any one day. On the whole, I am very much pleased with the preparation and believe it one of the best digitalis derivatives we have. He received all the effects of digitalis minus the digestive disturbance.

On Sunday, April 23, 1910, I was called to see one of our distinguished city officials. History: just returned from three weeks at West Baden Springs; heart weak, face cyanosed deeply, lips and nails blue, dropsical from feet up into body, which together with a severe bronchitis, was embarrassing respiration very much. Treatment: 4 tablets digipuratum first day, 3 on second and third days and 2 on fourth day. Diuretin Knoll, grs. xv. three times a day for a week. Strych. nit., gr., 1-30 t. i. d. Had slept little for a couple of weeks and no appetite. At the end of the week dropsy all gone, appetite good, and sleeping like a baby. Am following with one-half hour daily static electricity and continuing strychn. Says today (May 7th) he is perfectly well.

Old lady 70 years old, pneumonia; left lung entirely, right lung, partly, involved. Respiration, at worst 60; pulse, 180, feeble and irregular; lips and nails, blue; face, cyanosed. Treatment: digipuratum, strychnia and brandy. In this case I gave four tablets first twenty-four hours and continued half tablet every three hours for the whole tube. This equalled the directions for first day only, but I found I could not let down on it. The next tube followed with some days three, and some days two tablets. Altogether, I used two and one-fourth tubes. She is now (June 11th) well on in convalescence and sitting up. I gave no other treatment excepting attention to bowels with phenolphthalein. In further explanation of the case would say, it was typical asthenic, senile pneumonia with subnormal temperature throughout.

An hypertrophied prostate in which nodules can be felt per rectum is carcinomatous.—American Journal of Surgery.

MISCELLANY

THE MINNESOTA STATE UNIVERSITY HOSPITALS

The Committee of the Minnesota State University Hospitals issues the following letter to the medical profession of the state:

Minneapolis, November 1, 1910.

Dear Doctor:

We desire to announce to the medical profession of the state that the Minnesota State University Hospitals are in their second year of service and that they continue throughout the year.

The University Hospitals exist primarily for educational purposes, but their clinical importance to the University is not greater than is their economic importance to the state. The early record of the service has shown a large number of applications for admission. The conditions of admission are:—

(1) The certificate of a local physician, or of a medical officer of the city or county, to the effect that the patient is unable to pay ordinary charges for treatment and hospital care.

(2) An application for admission giving details of the patient's illness.

(3) The approval of the Superintendent of the University Hospitals, conditioned upon the clinical quality of the case and the existing vacancies in the wards.

(4) The payment of transportation charges to and from the hospitals.

The admission of emergency cases may be arranged, if necessary, by telephone or telegraph; but, in these cases, the usual forms and certificates must accompany the patient. Blank forms may be obtained upon request of the Superintendent. The hospitals admit no pay patients.

The University Hospitals now occupy six temporary buildings, with sixty beds, upon the University campus. The Elliott Memorial Building is approaching completion and will put 120 additional beds into service.

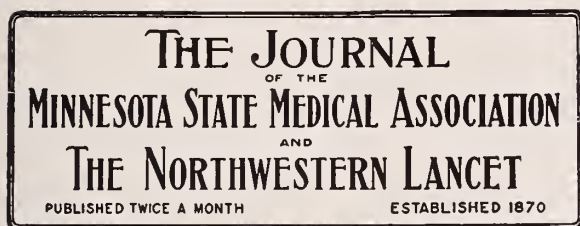
It is the expectation of the Faculty that the capacity of the hospitals will be progressively increased to four or five hundred beds. Such a hospital system is both an educational and an economic need of the state.

The physicians of the state are invited to visit the University Hospitals at their pleasure.

J. E. MOORE,

Chairman, Committee on University Hospitals.

R. O. BEARD, Secretary.



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HYGIENE AND SANITATION IN PUBLIC SCHOOLS

This subject is an old one, but in recent years the conditions found in the schools, in both the cities and the country districts, are so deplorable that they have been made a special study by educators, as well as sanitarians. The question of hygiene is almost as important as the question of the ventilating system. The majority of teachers believe that school-rooms should be lighted in such a manner that the pupil shall receive light over the left shoulder, and that the forward light be excluded as much as possible. In the new city schools the architects have attempted to solve the lighting problem, but have not yet succeeded, except in a few instances. Public officials who have to do with the public school system in the states are still considering the best way of introducing light that is sufficient without being objectionable, and it is universally admitted that in some instances the light may come from behind, as well as from the left side. The use of prismatic glass, ground glass, or even tinted glass is gaining in favor, but in the overcrowded rooms, and particularly in the quickly constructed and designed buildings, the use of glass, in whatever form, is still to be settled by the combined efforts of the educator, the archi-

tect, and the sanitarian. Ventilation in some of the older countries, where there are many one-room and two-room school buildings, and in the country districts in our own country where small buildings are commonly used, is unknown, and the question of lighting is not so important, at least, in the eyes of the school directors, and it is possible that light may be admitted into these small school buildings from both sides without interference with the health of the pupils.

This question is important enough to be given more consideration in the future than it has received in the past. Criticism in regard to ventilating systems has reached an acute state, and in time the conference between those who are interested in the construction of healthful buildings, will eventually solve the ventilating problem. With all the new facts that have been introduced into the public school, it has been suggested that the teaching of hygiene and sanitation to school children should be a very important part of the curriculum.

Dr. John W. Ritchie, of Williamsburg, Virginia, read a paper on this subject before the American Public Health Association at Richmond last year, in which he urges the teaching of both of these subjects in the public schools, and he suggests that the teacher of sanitation meets with the same difficulties that the physician and educator find in getting the public to understand, believe, and act upon facts presented. He further says that the pupils in the public schools will believe what they are told without having reasons given them. This, of course, is a great mistake. Children, as well as men, will, some time in their career, demand to know the whys and wherefores of statements made that present an idea for expansion or discussion.

In order to overcome these difficulties it is necessary to teach systematically and logically, and to give practical reasons when sanitary ideas are advanced. Pupils may be very much impressed by a few specific facts relative to specific conditions. They study plant and animal life, but in the majority of instances they know little of the reasons for growth and development. The repeated representation and illustrated statements relative to health and disease, particularly when emphasized by the trained sanitarian, will advance the cause of hygiene and sanitation greatly in the future. Children should be taught, above all, how to keep well, and, further, to know the necessity of good food and fresh air, as well as how to escape the commonly

preventable diseases. People generally seem to be seeking information; and well people, in particular, should have some well-grounded statements that will help them in their daily life in their association with others.

The dangers and obstacles in teaching children present no greater difficulties than the medical man must overcome in teaching medical students. Instructors are very apt to fail with the simple fundamentals, which are to them very plain, and, they think, can safely be omitted when teaching pupils or students. Experience teaches us, however, that unless the student is well-grounded in the fundamentals in the course which he is to pursue, he really has a hazy impression of the teacher's ideas. In order to present the study of sanitation, boards of education must see for themselves the necessity of this instruction; and if a wedge to the study of sanitary problems can be introduced, it can be made not only instructive, but interesting. Drawing, music, agriculture, and business subjects are looked upon as most essential, and because they are thought to be necessary, sanitation and hygiene are left for some future time. If the teacher is unable to present, or does not understand, sanitary principles, this work might be done by bulletins or by requiring the teacher to have a fundamental training in sanitation.

Children have been found to digest these things very readily and have shown that they are easily impressed with the necessity of keeping themselves well and preventing the invasion of a so-called communicable disease.

Experience in other cities where this work has been advanced, shows very clearly that the pupils improve in their way. They are not only better pupils from a health point of view, but they understand and learn more quickly than others.

The teaching of physiology in the public schools has been a very difficult one to carry on, mainly because the teacher does not understand the value and necessity of physiological facts. In order that the physiology of the individual and the personal hygiene of the student may become effective, the text-books on physiology, sanitation, and hygiene should be very carefully selected. This work can be done best through boards of health, rather than through boards of education; at least, physicians are better able at present to advise what should be taught, how it should be taught, and what text-books are best suited for the purpose.

The International Institute of Hygiene had a

meeting in Paris this year, covering this field very effectively and the exhibit was one of tremendous proportions and showed very clearly what had been done and accomplished, and what might be accomplished through the proper channels.

TUBERCULOSIS, A REPORTABLE DISEASE

Most of the communicable diseases, and, particularly, those which become epidemic or even endemic, are by many states considered important enough to be recorded among their vital statistics. It seems very necessary to report diphtheria, scarlet fever, smallpox, epidemic cerebro spinal meningitis, and epidemic poliomyelitis, but no systematized effort has been made to report tuberculosis; at least the uncertainty of diagnosis in the acute stages of tuberculosis has put it on a questionable basis, and the result is that many officials and the majority of physicians are unwilling to subscribe to the urgency of recognizing this disease and classing it among the preventable disorders. The study of tuberculosis, even in the country districts, shows the importance, not only of the early care of the individual, but of the protection of his immediate family.

Illustrations without number are constantly presented that will confirm this statement. Tuberculosis is frequently found among farmers, and yet is not considered sufficiently important to record as a reportable disease.

Among the better classes in which tuberculosis is found, the objection to report its presence is largely one of sentiment. The family does not wish the facts to become public, and the physician in respecting their wishes creates a danger-zone. There seems also to be a misapprehension about the reporting of this disease, for fear that the names will become public, and thus create a suspicion of concealment or indifference. The actual facts are that the names are never published. They are simply made a matter of record in the health office and are used only when protection is demanded.

Since tuberculosis has created an enormous destruction of human life, it seems necessary that every possible effort should be made to control the method or danger of infection to others. As soon as the people are educated to this idea they will understand better that tuberculosis is a preventable disease; that it belongs to the health authorities; that the responsibility for its suppression or contagion rests with the

family, the physician, and the health department. No severe measures are needed and no harsh restrictions are necessary—only a few simple sanitary rules, which, if enforced, would be greatly acceptable and appreciated by the patient, his family, and his doctor.

Every effort, therefore, should be made to place consumption upon the reportable list, and greater effort should be made to convince the patient and his family that there is no stigma or disgrace attached to the case, unless there is an open violation of the ordinary rules of prevention.

In the northern part of the state of Minnesota, in the surroundings of two small towns, there has been an urgent request for a tuberculosis survey; and with that condition existing in the country, how much more necessary is it in the larger cities that are crowded and overcrowded and where the poor are in so close quarters that the spread of infection is very difficult to arrest?

This matter should be taken up by medical societies, thoroughly discussed, and a law suggested to the legislature that will act as a protective measure.

BOOK NOTICES

THE DISEASES OF INFANCY AND CHILDHOOD. Designed for the use of students and practitioners of medicine. By Henry Koplik, M. D., attending physician to the Mount Sinai Hospital; consulting physician to the hospital for deformities, formerly attending physician to the Good Samaritan Dispensary, The St. John's Guild Hospitals, New York; ex-president of the American Pediatric Society; member of the Association of American Physicians, and of the New York Academy of Medicine. Third edition, revised and enlarged. Illustrated with 204 engravings and 39 plates in color and monochrome. Lea & Febiger, New York and Philadelphia.

This standard text shows evidence of careful revision. The discussion of poliomyelitis has been thoroughly rewritten with the inclusion of the data from the New York and Swedish epidemics. The clinical division of the symptomatology follows the Scandinavian authors. In meningitis the introduction of the Flexner serum by gravity is advised.

The chapters on infant-feeding are somewhat disappointing in that the top milk mixtures, which the Nestor of American Pediatrics, Jacobi, has pronounced "heresy," and which contain so

many scientific fallacies, are given such prominence.

The following statement is refreshing, "With advancing knowledge and the possibility of making more accurate diagnoses than were formerly feasible, the diseases incidental to dentition have become more a matter of speculation."

The discussions of tubercular meningitis and pyloric stenosis are especially good. There are many excellent illustrations including colored plates of the von Pirquet reaction.

Although not so widely known as some of the other American texts it is, in the reviewer's opinion, the most serviceable for students and those in general practice.

A TEXT-BOOK OF PATHOLOGY. By Joseph McFarland, M. D., professor of Pathology and Bacteriology in the Medico-Chirurgical College of Philadelphia. Second edition. Octavo of 856 pages, with 437 illustrations, some in colors. Philadelphia and London, W. B. Saunders Company, 1910. Cloth, \$5.00 net; half morocco, \$6.50 net.

The purpose of the book is given in the following words of the author: "The work has been written particularly for students working for the degree of Doctor of Medicine, who need to acquire the principles of pathology rather than to busy themselves with the evolution of the subject or to enter into the consideration of its controversial points."

It comprises both general and special pathology taken up according to the usual classification. The "Introduction" explains concisely some common terminology of the subject.

In the chapter on the Pathology of Nutrition, a subject of constantly increasing importance, the work of Moleschatt, Ranke, Voit, Forster and Atwater is taken as fundamental. The valuable work of Von Noorden, Fischer, Chittenden, Folin and others is hardly mentioned even though it apparently overthrows some of the earlier conclusions.

In the consideration of tumors the author follows the classification of Adami which, based as it is on a histogenetic basis, seems logical in our present state of knowledge. As a whole the text is written in an interesting manner and is quite complete. The illustrations elucidate the text appropriately. The lithographic and typographic work is good.

PROGRESSIVE MEDICINE. A quarterly digest of advances, discoveries and improvements in the medical and surgical sciences. edited by Ho-

bart Amory Hare, M. D. Lea & Febiger, Philadelphia and New York. Volume 12, No. 2, June, 1910.

This volume of progressive medicine contains much valuable information on a variety of subjects and in its usual, well digested form. The subjects covered, with their authors, are as follows: Hernia, by William B. Cooley; Surgery of the Abdomen, Exclusive of Hernia, by Edward Milton Foote; Gynecology, by John G. Clark; Diseases of the Blood, Diathetic and Metabolic Diseases, Diseases of the Thyroid Gland, Nutrition, and the Lymphatic System, by Alfred Stengel; Ophthalmology, by Edward Jackson.

Though difficult to single out one part of this volume as better than another, the article on hernia may be mentioned as unusually full and complete and, not only thoroughly reviews the recent literature on the more common hernias, but also devotes considerable attention to the rare forms.

Appendicitis receives its usual liberal share of attention, and some space is devoted to foreign bodies, particularly sponges, in the abdomen, with the suggestion that loose sponges should never be employed in abdominal surgery. The work of Webster and others on peritoneal adhesions and how to prevent them is given in considerable detail. In Stengel's part of the book Diseases of the Blood and Diabetes Melitus receive unusually liberal treatment, the latter having as much space as is devoted to the subject of Ophthalmology entire.

Volume 12, No. 3, Sept. 1, 1910. The contents of this volume are as follows, and the articles are fully up to the high level of this publication: Diseases of the Thorax and its Viscera, including the heart, lungs and bloodvessels, by William Ewart; Dermatology and Syphilis, by William S. Gottheil; Obstetrics, by Edward P. Davis; Diseases of the Nervous System, by William G. Spiller.

and accepted, and the following officers were elected for the ensuing year: President, Dr. S. Marx White, of Minneapolis; vice-president, Dr. John L. Rothrock, of St. Paul; secretary-treasurer, Dr. Arthur W. Dunning, of St. Paul. Executive Committee,—Dr. J. T. Christison, of St. Paul; Dr. C. M. Carlaw, of Minneapolis; Dr. J. C. Litzenberg, of Minneapolis.

Dr. J. Clark Stewart presented the fresh specimen and reported the case of a large soft myoma of the uterus. It had been suspected that the girl was pregnant, because menstruation had been suspended for three months and some enlargement was noticeable.

Dr. Stewart also reported a case in which four small calcified tumors had been removed from various parts of the body. They were subcutaneous, had existed for over ten years, and lacked the characteristics of lipoma or sebaceous tumors, and he was at loss to classify them.

Dr. John M. Armstrong reported having seen two cases of leprosy this year. He gave a brief description of both cases, and exhibited excellent photographic illustrations of one of them.

Dr. Archa Wilcox reported a case of facial paralysis following operation for removal of tumor of the angle of the jaw. He had been able to dissect out and to save but a single fine filament of the nerve, and complete loss of function followed the operation. This filament had served, however, to so regenerate the nerve that at the end of one year function has been restored and motion in the face has returned.

Dr. A. E. Benjamin reported a case of removal of kidney in a man fifty-five years of age, for sarcoma of the mixed cell type.

Dr. Louis B. Wilson, of Rochester, then gave the paper of the evening illustrated with stereopticon pictures upon "Studies on Certain Factors Favoring Tumor Development." The subject was discussed by Drs. White, Stewart, Arnold Schwyzer, Lee, and Chas. Mayo.

ARTHUR A. DUNNING, M. D., Secretary.

MOWER COUNTY SOCIETY

The Society held its annual meeting on October 12th at Austin, with eleven members present. A paper was read by Dr. Homer F. Peirson, of Austin, on, "The Health Officer: His Work and His Relation to His Colleagues and the Community."

Interesting reports were given of the work of the State Association meeting by members who attended the same.

Officers were elected for the current year as

REPORTS OF SOCIETIES

MINNESOTA ACADEMY OF MEDICINE

The annual meeting of the Academy was held at the Minneapolis Club Wednesday evening, Oct. 5th. There were present forty-six members and six guests.

After dinner the meeting was called to order by the President, Dr. Haldor Sneve. The annual report of the Secretary-Treasurer was read

follows: President, Dr. Chas. F. Lewis, Austin; vice-president, Dr. G. M. F. Rogers, Austin; secretary, Dr. C. C. Leck, Austin; treasurer, Dr. G. J. Schottler, Dexter; censors, Drs. Henslin Cobb, and C. A. Hegge; delegate, Dr. M. J. Hart, LeRoy; alternate, Dr. A. E. Henslin, LeRoy.

ARTHUR N. COLLINS, M. D., Secretary.

THE AMERICAN HOSPITAL ASSOCIATION MEETING

The annual meeting of The American Hospital Association was held at St. Louis, September 20-23, 1910. Dr. Beard, the Secretary of the Committee on Hospitals, attended the meeting as the representative of the University of Minnesota. He has recently submitted a report upon his service to the Committee on Hospitals, which not only presents several interesting results of the meeting, but offers some timely suggestions with reference to the development of the hospital system of the University of Minnesota. The report which follows will be of special interest to the medical alumni:

To the Committee on Hospitals,
University of Minnesota.

Gentlemen: I beg leave to report upon my service as delegate to The American Hospital Association at its session September 20-23 as follows, referring only to items of special interest to the University:

(1) It is the sentiment of the Association that a detailed financial accounting system should be expected of all hospitals, even of those of the smaller type.

(2) Special emphasis was put upon the importance of a thorough statistical system for the scientific work of the hospital.

(3) An ideal plan was presented by Dr. S. S. Goldwater for general ward buildings and for an elastic ward unit for contagious diseases. These ideal plans have been so well worked out with reference to the best ventilation, the best sunlight, the ample provision of balcony space and the convenience of the service rooms to the wards that I have thought it worth while to reproduce them for the examination of this Committee.

The advantages of the elastic ward unit for contagious diseases turn, not alone upon these considerations, but also upon the possibility it gives for shifting, interchangeably, the service in one contagious disease for another.

(4) Washington University is to expend, immediately, from one and one-quarter to one

and one-half million of dollars in hospital construction. A presentation of the plans for new hospital buildings was made by the architect, Mr. Theodore C. Link, a man of remarkable ability in this line, and by Dr. Wayne Smith, the Superintendent of the Washington University Hospitals. Through the kindness of Mr. Link, I shall soon be able to present to you sketches of these plans, which will not only give us some conception of the scope of the undertaking, but will illustrate the many excellent features of the proposed hospital group. Only two blocks of city land are allotted to these hospital buildings and admirable as are these plans, it can readily be seen that this space will be unduly crowded. The University of Minnesota should take warning of the fact.

It is to be remembered that this money to be put into this hospital system is but a part of five million dollars raised for the department of medicine of Washington University, not by legislative appropriations, but by the citizens of Missouri and chiefly of the city of St. Louis.

Having enjoyed this opportunity to see what this institution has done and is doing and realizing, as we must, that it is simply putting itself into form to accept the invitation of the Carnegie Foundation to become the center of medical education in the Southwest, I cannot escape the conclusion that what Missouri and St. Louis have done, Minnesota and the cities of Minneapolis, St. Paul and Duluth could do; and that the very same opportunity awaits the University of Minnesota to become, in fact, as it is in prospect, the medical center of the Northwest. The argument of this Washington University achievement, which is passing into history, is inescapable in the obligation it puts upon us. We have the occasion and it is a large one. Have we not the men who, refusing to await the slow process of development which is conditioned upon future legislative appropriations, which must be shared, at the best, with other hungry colleges, will undertake a similar campaign for a complete University Hospital system in the immediate future. Relying upon the state for land and for hospital maintenance, why should we not go out and get, from private sources, the means necessary to build and equip as ample a hospital-system as Washington University, Harvard University, Johns Hopkins University and others have already within their reach. This, in the case of the St. Louis University, has been done not by dead, but by living men,—by men many of whom will live to see the fruits of their

devotion and their labor and will be satisfied. The members of this Faculty, backed by the alumni of this College, could do for Minnesota, and as easily, what has been done for Washington University. It only requires that they shall be possessed of the same spirit which has inspired the men of the Southwest and they are usually credited with it in larger measure.

(5) A high note was struck in the Association meeting in the support, by two essayists, of the principle that public hospitals should be, as are public schools, for the entire people and should therefore be of a character to serve the social need of all classes alike. The educational function of these hospitals was fully recognized.

(6) The accidents which occur in hospital service were ably discussed by a woman superintendent and their causes found (a) in the under-payment and therefore the inferior quality of hospital employes, (b) in the faulty instruction given to subordinates and nurses, and (c) in the overwork and excessive hours imposed upon the nursing force.

(7) The need of post-graduate training of nurses in preparation for headships of departments and for superintendentships of hospitals was competently discussed and teaching hospitals were urged to undertake this work.

(8) The organization and endowment of nursing guilds for the purpose of supplying graduate nurses to families of moderate means at a moderate cost was a solution offered by a committee which has been studying the problem of the adjustment of competent nurses' wages to social need, for two years past. Its report disfavors the shorter training of cheaper and therefore inferior nurses.

(9) Your representative addressed the Association upon "The Education of the Nurse in America," advocating a larger measure of preliminary culture and a more careful selection of student material; condemning the commercialism which has exploited the training schools for the benefit of hospitals; recommending the abandonment of training-schools by small hospitals which are inadequate to their proper support and the substitutive employment by these small institutions of graduate nurses; and urging the alliance of training schools with teaching hospitals and with well-endowed or state-supported University schools of medicine.

As a means of self-education and for the purpose of keeping in close touch with the development of hospital interests, the University of Minnesota should continue to be represented in

the meetings of the American Hospital Association.

RICHARD OLDING BEARD.

NEWS ITEMS

Dr. J. A. Hielscher, of Mankato, will spend the winter in Mexico.

Dr. Herman Kesting, a recent graduate, has located at Brentford, S. D.

Dr. Herbert O. Smith, of Shakopee, died last month at the age of 52.

Dr. Day, of the staff of the Budd Hospital at Two Harbors, has moved to Knife River.

Dr. Martin Long, of Custer, S. D., was married last month to Miss Lois Able, of Holton, Kans.

Dr. Edmund Lalonde has moved from Richmond to St. Paul, and has offices in the Detroit Building.

Dr. A. E. Johnson, of Madison, has returned from Chicago, where he has been doing post-graduate work.

Dr. Edward W. Benham, of Mankato, was married last month to Miss Gertude L. Oleson of the same place.

Dr. R. D. Gardner has moved from Hallock to Blackduck, to take a position on the staff of the hospital at that place.

Dr. Robert C. Butz, assistant physician at the St. Peter State Hospital, has resigned his position and gone to Pittsburg, Pa.

Dr. Stuart Leech, of Brooten, has moved to Portland, Oregon. His practice at Brooten has been taken by Dr. Carl D. Kolset, of Clear Lake.

Dr. David R. Greenlee, of Minneapolis, died last month at the age of 78. Dr. Greenlee was formerly surgeon of the Soldiers' Home, at Minnehaha.

Dr. Frank D. Gray, of Vesta, has purchased a large school building at Marshall, and will remodel the same at an outlay of \$10,000 for a hospital.

Drs. H. S. Plummer and E. S. Judd, of St. Mary's Hospital, Rochester, with their wives, have gone to Europe. They will be absent until Christmas.

At the October examination held by the State Board of Medical Examiners of Montana, fifty-

two candidates appeared, and two-thirds of them received certificates.

The Minnesota State Board of Pharmacy held an examination last month and granted only thirteen certificates out of sixty applicants who took the examination.

Dr. Henry Schmidt, a recent graduate of the State University, who has spent several months at the Asbury Hospital, Minneapolis, as assistant, has located at Westbrook.

Dr. George M. Olson, naval recruiting officer, at Minneapolis, has gone to Washington, D. C., to take the naval medical examination for promotion. Dr. Olson is a graduate of the State University.

Dr. John C. Harding, of St. Paul, who has been doing special work in diseases of the eye in the hospitals of Europe will spend a month in the hospital at Amritsu, India, the appointment to do so coming from the British government.

Dr. Howard McL. Morton, of Minneapolis, who spent four and a half months in Europe this summer, contributes to this issue an interesting account of a congress of specialists in Heidelberg. Dr. Morton spent most of his time in the clinics of Munich.

The State Association of Graduate Nurses met in St. Paul on October 11th, with an attendance of over one hundred. Officers for the current year were elected as follows: President, Miss Edith Gatzman; vice-president, Mrs. B. Roderick; secretary-treasurer, Mrs. E. W. Sturh. The officers are all from Minneapolis.

Dr. H. M. Bracken, executive officer of the State Board of Health, has returned from his trip to Europe, where he gained a large amount of useful information about the management of sanitary matters, much of which ought to be a lesson to our municipal managers. Why cannot we profit from these useful lessons?

The Red Cross Medicine Co., proprietors of the Crookston Medical Institute, advertise the institute by means of motion pictures and a black-faced comedian in the villages from which the Institute draws its patronage. The show must be considered a high recommendation of the medical and surgical skill of the conductors of this institution.

At the annual meeting of the Minnesota Graduate Nurses' Association, held in St. Paul last month, the secretary-treasurer of the society

stated that the milk supply of the Twin Cities is in a deplorable condition because of the lack of funds in the hands of the health department of each city to make proper inspection and compel cleanliness in the handling of the milk.

Stillwater had a tag day last month to raise money to build an addition to the city hospital; and the women fought nobly, realizing over \$1,400. Did our readers ever think of the educational, even the Christianizing value of such a day? It teaches many the joy of giving to a worthy cause. Let there be more tag days for hospitals, visiting nurses, etc., in the Northwest.

The physicians of Pennington, Custer, Fall River, and Stanley counties of South Dakota, have organized a district society to be known as the Hot Springs Society, No. 10. The following were elected officers: President, Dr. F. E. Walker, Hot Springs; vice-president, Dr. F. W. Minty, Rapid City; secretary-treasurer, Dr. W. E. Robinson, Rapid City. The next meeting will be held at Rapid City on Nov. 8th.

The wives of the members of the Hennepin County Medical Society have formed an organization for general helpfulness in the city. It will be an auxiliary of the medical society, and thus will find unusual opportunities for direct, immediate, and much-needed helpfulness. The officers are the following: President, Mrs. W. J. Byrnes; vice-president, Mrs. J. Warren Little; secretary, Mrs. Frank J. Corbett; treasurer, Mrs. C. F. Nootnagel.

The *Star* of Eveleth thus speaks editorially: "Our medical officer of health seems to be a hustler of the first water and the manner in which he is tackling the unsanitary questions of the city assures us that it is only a matter of time before it will be a model city as far as cleanliness is concerned. Dr. Bulkely in his reports to the council shows his hustling propensities, and with the co-operation of the citizens he should speedily make Eveleth the one 'white' spot on the range."

The South Dakota State Medical Association held its annual meeting at Hot Springs, S. D., on September 27, 28, and 29. The papers and the discussions were of a high order. Dr. John B. Murphy, of Chicago, gave an address which required over three hours for its delivery. The closest attention was given the speaker throughout. Drs. W. J. Bell and W. R. Murray, of Minneapolis, also presented papers. A committee was appointed to have the medical practice act strengthened by the next

legislature. Officers for the current year were elected as follows: President, Dr. H. W. Finnerud, Watertown; vice-president, Dr. C. E. McCauley, Aberdeen; secretary-treasurer, Dr. R. D. Alway. The death list of the year numbered only three men, but each was a leading man in the state: Dr. C. B. Mallery, of Aberdeen, was ex-president of the Association; Dr. DeLorme W. Robinson, of Pierre, had been the executive officer of the State Board of Health; and Dr. Mory L. Reed, of Lemmon, was a highly respected member of the profession. The next meeting will be held at Pierre, and the time of the meeting has changed from October to June.

[Notice.—A physician who offers his practice for sale through these columns is entitled to full information concerning an applicant, and unless this is given a reply may not be received, because a physician who sells the good-will of his practice is in duty bound to sell to a man worthy the confidence of his former patients, and to no other man will he make known his intention of changing his location.]

PRACTICE FOR SALE

I will sell my practice of from \$2,800 to \$3,100 a year in large and rich territory in western Minnesota to the man who will buy my office fixtures, invoicing from \$350 to \$400. A splendid opportunity for the right man. Am going to city. Address W. C., care of this office.

FOR SALE

Complete outfit of instruments and chair-table; also a library of about one hundred and fifty volumes, just what a doctor starting out would need. For information, write or call on Mrs. MacNamara, 111 W. Isabel St., St. Paul.

OFFICE FOR RENT

I want a man in general practice to take the morning hours (up to 2 p. m.) in my furnished office in the Donaldson Building, Minneapolis, and share the expense. Address L. M., care of this office.

LOCATION FOR A WOMAN PHYSICIAN

An excellent location for a woman physician in a good town of 8,000 in Southern Minnesota is offered to one who will take my practice and pay for the same the price of my office furnishings. Address H. A., care of this office.

PRACTICE FOR SALE

Complete physician's outfit, library, instruments, desk, safe, x-ray machine, hospital beds, etc. Best of terms to the right party. Must be Scandinavian. This is too good an opportunity to last. We can convince you in one interview. Practice of \$4,000 per annum can be assured. Address E. M., care of this office.

Doctor: If you want practical post-graduate work during fine season in the delightful city, write for particulars. New Orleans Polyclinic, P. O. Box 797, Post-graduate Medical Dept., Tulane University of La.

DEATHS REPORTED TO THE STATE BOARD OF HEALTH OF MINNESOTA FOR THE MONTH OF AUGUST, 1910

REPORTED FROM STATE INSTITUTIONS FOR MONTH OF AUGUST, 1910

STATE INSTITUTIONS.		Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Acute Anterior Polio Myelitis	Typhoid Fever	Diarrheal Diseases of Children	Cancer	Puerperal Septicemia
Fergus Falls, Hospital for Insane.....	16	6	1	1												
Rochester, Hospital for Insane.....	7	1														
St. Peter, Hospital for Insane.....	7												1			
Anoka, Asylum.....																
Hastings, Asylum.....	4	1														
Faribault, School for Deaf.....																
Faribault, School of Blind.....																
Faribault, School for Feeble Minded.....	6	1					1	2								
Owatonna, School for Dependents.....																
Stillwater, State Prison.....	1															
St. Cloud, State Reformatory.....																
Red Wing, State Training School.....																
Minneapolis, Soldiers' Home.....	8														3	
Totals	49	9	2				1	2					1		3	

REPORTED FROM 72 CITIES HAVING A POPULATION OF 1,000 OR UPWARDS
FOR THE MONTH OF AUGUST, 1910

CITIES.	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Acute Anterior Polio Myelitis	Typhoid Fever	Diarrheal Diseases of Children	Cancer	Puerperal Septicemia
Albert Lea	4,500	5,657	7									1			1	1	
Anoka	3,769	4,053	10	2												1	
Austin	5,474	6,489	3														
Barnesville	1,326	1,566	1														
Bemidji	2,183	3,800	10										1		4	1	
Blue Earth	2,900	2,364	1														
Brainerd	7,524	8,111	20	1		1							1		9	1	
Chaska	2,165	2,085	*														
Chatfield	1,426	1,300	1														
Cloquet	3,074	6,117	11	1		1									6		
Crookston	5,359	6,794	9												2		
Detroit	2,060	2,149	7												4		
Duluth	52,968	64,942	138	6	2	1		1				3	1	7	44	9	3
East Grand Forks	2,077	2,489	0														
Ely	3,712	4,045	6	1											2		
Eveleth	2,752	5,332	7	1											1	2	
Faribault	7,868	8,279	3														
Fairmont	3,440	2,955	0														
Fergus Falls	6,072	6,692	8														
Granite Falls	1,214	1,340	1														
Hastings	3,811	3,810	4	1									1		1		
Hutchinson	2,495	2,489	0														
Jordan	1,270	1,311	*														
Lake City	2,744	2,877	3												2		
Litchfield	2,280	2,415	3												1		
Little Falls	5,774	5,856	6					1							2		
Luverne	2,223	2,272	3												1		
Le Sueur	1,937	1,842	3				1								1		
Madison	1,336	1,604	3		1												
Mankato	10,559	10,996	16	1	1										3	1	
Marshall	2,088	2,243	4									1					
Melrose	1,768	2,151	2									1					
Minneapolis	202,718	261,974	326	23	6	15	1	9	3			5	4	10	67	23	2
Montgomery	979	1,281	2													1	
Montevideo	2,146	2,595	5	1													1
Moorhead	3,730	4,794	10												6		
Morris	1,934	2,003	1														
New Prague	1,228	1,419	1														
New Ulm	5,403	5,720	8		1								1			1	
Northfield	3,210	3,438	4	1											1		
Ortonville	1,247	1,612	1														
Owatonna	5,561	5,651	11	1											3	2	
Pipestone	2,536	2,885	0														
Red Lake Falls	1,885	1,797	2														
Red Wing	7,525	8,149	12	1											1	2	
Redwood Falls	1,661	1,806	0														
Renville	1,075	1,229	2														
Rochester	6,843	7,233	21	2	2	1									1	3	
Rushford	1,100	1,133	1			1											
St. Charles	1,304	1,238	0														
St. Cloud	8,663	9,422	6													2	
St. James	2,607	2,320	0														
St. Paul	163,632	197,323	211	16	5	7	1	12		1		2	1	5	37	14	1
St. Peter	4,302	4,514	2														
Sauk Centre	2,220	2,463	0														
Shakopee	2,046	2,069	3		1										1	1	
Sleepy Eye	2,046	2,312	3	1			1										
South St. Paul	2,322	3,458	4					2							2		
Stillwater	12,318	12,435	10	3											1	1	
Thief River Falls	1,819	3,502	5														
Tower	1,366	1,340	2														
Tracy	1,911	2,015	2			1									1		
Virginia	2,962	6,056	21	2				2							5	4	1
Wabasha	2,528	2,619	3												1		
Warren	1,276	1,640	1														
Waseca	3,103	2,838	4														
Waterville	1,260	1,383	1														
West St. Paul	1,830	2,100	1														
Willmar	3,409	4,040	3														
Windom	1,944	1,884	0														
Winona	19,714	20,334	20	2					1	1					1	2	
Worthinton	2,386	2,276	4		1										1	1	

*No report received. Health officer not doing his duty.

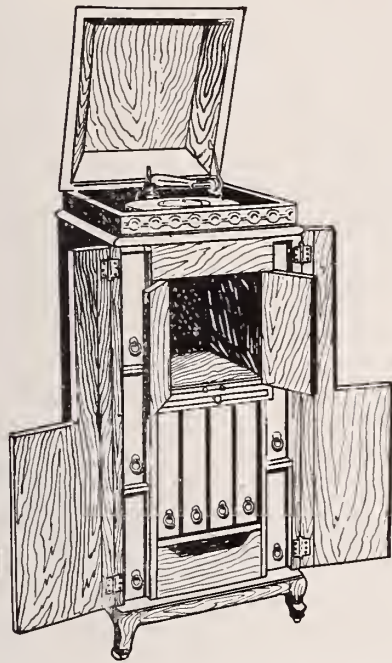
REPORTED FROM 65 VILLAGES HAVING A POPULATION OF 1,000 OR UPWARDS
FOR THE MONTH OF AUGUST, 1910

VILLAGES.	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Acute Anterior Folio Myelitis	Typhoid Fever	Diarrheal Diseases of Children	Cancer	Puerperal Septicemia
Ada	1,253	1,515	0														
Adrian	1,258	1,184	0														
Aitkin	1,719	1,896	0														
Akeley		1,636	0														
Alexandria	2,681	3,051	1		1												
Appleton	1,184	1,321	4												3		
Belle Plaine	1,121	1,301	0														
Benson	1,525	1,766	0														
Breckenridge	1,282	1,850	4			1									1		
Buffalo	1,040	1,124	3														
Caledonia	1,175	1,405	3	1											1	1	
Canby	1,100	1,505	0														
Cannon Falls	1,239	1,460	1												1		
Cass Lake	546	1,062	1												1		
Chisholm		4,231	27												20		
Dawson	962	1,056	3													1	
Delano	967	1,023	0														
Fosston	864	1,000	2										1			1	
Frazee	1,000	1,146	2												1		
Glencoe	1,780	1,805	2	1													
Glenwood	1,116	1,718	3												1	1	
Graceville	856	1,032	2													1	
Grand Rapids	1,428	2,055	8											2	2		
Hallock	805	1,014	0														
Hibbing	2,481	6,566	17		1	1		1						2	10		
Jackson	1,756	1,776	2									1				1	
Janesville	1,254	1,205	3													1	
Kasson	1,112	1,049	0														
Kenyon	1,202	1,252	0														
Lake Crystal	1,215	1,231	3	1													
Lanesboro	1,102	1,041	0														
Long Prairie	1,385	1,256	2												1		
Madelia	1,272	1,290	0														
Milaca	1,204	1,319	0														
Mountain Lake		959	*														
North Mankato		939	0														
North St. Paul	1,110	1,400	2												2		
Olivia	970	1,019	0														
Osakis	917	1,056	*														
Park Rapids	1,313	1,719	0														
Pelican Rapids	1,033	1,095	1					1									
Perham	1,182	1,366	*														
Pine City	993	1,092	0														
Plainview	1,038	1,140	0														
Preston	1,278	1,320	4	1											1		
Princeton	1,319	1,704	*														
Rush City	987	1,041	0														
Rushford	1,062	1,040	0														
St. Louis Park	1,325	1,491	3	1											1		
Sandstone	1,189	1,589	2												1		
Sauk Rapids	1,391	1,552	4												4		
Scanlon		1,122	0														
South Stillwater	1,422	1,572	1														
Springfield	1,511	1,546	2												1		
Spring Valley	1,770	1,573	2														
Staples	1,504	2,163	4												3		
Two Harbors	3,278	4,402	17			2								1	5	2	
Wadena	1,520	1,868	2												5		
Wells	2,017	1,814	0														
West Minneapolis	2,250	2,530	4	1				1							1	1	
Wheaton	1,132	1,346	2														
White Bear Lake	1,288	1,724	1														
Winnepago City	1,816	1,553	*														
Winthrop	813	1,031	0														
Zumbrota	1,119	1,129	1														
State Institutions			49	9	2			1	2					1		3	
Other parts of State	1,012,328	1,085,886	880	56	8	13	1	12	10	4		11	33	11	208	50	3
Total for State	1,751,395	1,979,658	2077	138	32	44	5	43	16	6	...	25	44	53	485	131	1

*No report received. Health officer not doing his duty.

149 Still births and premature births, not included in above totals

Your Credit Is Good at The New England!



This
Wonderful
"Victor-
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PUBLISHER'S DEPARTMENT

WHITE BEAR HOSPITAL AND SANITARIUM

There is no more beautiful spot near the Twin Cities than White Bear Lake, and the new hospital and sanitarium, located on the lake-shore and under the most competent management, must find much favor with the physicians of the Twin Cities and the entire state. The present buildings have accommodation for 30 patients. Their card appears in our advertising columns.

THE CALIFORNIA SANITARIUM

Our readers no doubt have not a few tubercular patients going to California for the benefit of its mild climate. To such as need sanitarium treatment, the California Sanitarium offers special advantages. It is located at Belmont, near San Francisco, but far enough away to be free from the ocean chill. Its grounds are beautiful and commodious, and its buildings are modern.

For detailed information application may be made to the medical director, Dr. Max Rothschild, in San Francisco, 1334 Van Ness Ave.

THE MUDCURA SANITARIUM

When Dr. Fischer planned a sanitarium at the sulphur springs of Shakopee he knew, from lay experience, what results the treatment there under favorable circumstances would do for patients, and he had faith that the patients would come. They have indeed come and been cured, and they have come in so large numbers that he is now compelled to give up a large private practice and devote his entire time to the institution.

The building has every modern convenience, and the baths are equal to the best in this country, and results have shown it. The institution is run on ethical, not fake, lines, and it is situated only 20 miles from St. Paul and Minneapolis. Their announcement has appeared in our advertising columns.

THE HYPODERMATIC TABLET AS AN EMERGENCY AGENT

If there is one class of therapeutic agents which more than another should be chosen with discretion and judgment, the hypodermatic tablet represents that class. When he administers a preparation hypodermatically the physician wants prompt action, and he wants to be certain that he is going to get it. To have that assurance he must use a tablet that is active, that has definite strength, that dissolves promptly and wholly. Cheap tablets, poorly made tablets, tablets concerning which there is the slightest doubt as to medicinal quality, may well be left alone. And there is no need to err in the matter of selection. Hypodermatic tablets of the better sort are easily obtainable. Perhaps the brand which comes most readily to mind is the brand which is exploited so extensively to physicians under the familiar caption of "Five Seconds by the Watch." The makers, it is hardly necessary to add, are Messrs. Parke, Davis & Co., who guarantee their hypodermatic tablets unequivocally as to purity, solubility, activity, and stability.

THE JOURNAL OF THE MINNESOTA STATE MEDICAL

POST-GRIPPAL ASTHENIA

Of all the acute infections to which human flesh is heir, none seems to be followed by such general prostration as La Grippe. As the Irishman aptly described it, it is "the disaise that keeps ye sick for a month after ye get well." The general devitalization that ensues after the subsidence of the acute symptoms appears to be entirely out of proportion to the severity of the original attack. It is therefore distinctly the part of clinical wisdom to inaugurate a vigorous reconstructive campaign as soon as the febrile movement subsides. Plenty of fresh air, an abundance of nutritious but easily digestible food, and regular doses of Pepto-Mangan (Gude) constitute a trio of therapeutic measures of marked benefit. If the heart action is unduly weak, or if the prostration is more than usually pronounced, an appropriate dose of strychnia added to the Pepto-Mangan is of considerable additional service.

REPORTS ON ACCIDENTAL AND SUICIDAL SWALLOWING OF BENETOL

Case 1.—(Reported by the Oak Street Pharmacy, Minneapolis). Mrs. L—, a waitress, desired to take a large spoonful of aromatic cascara sagrada and by mistake poured from a Benetol bottle. After swallowing a brimming tablespoonful she noted the difference in taste and a hot sensation in the stomach. Running to the nearest drug-store she exclaimed, "I have poisoned myself. I have taken this poison," showing the bottle of Benetol. The woman was quieted by the druggist, assured that Benetol was not a poison, and sent back without treatment of any kind. Seen three hours and also three days later, she said that no bad effect of any kind was felt. On the contrary she never felt better in her life.

Case 2.—(Reported by Dr. E. W. Fahey, Duluth, Minn). Two prescriptions were given to a foreign woman. One was for internal medicine, the other Benetol to be used in a douche. Misunderstanding directions, the woman used the internal medicine in the douche and took the Benetol internally, a teaspoonful three times per day until four ounces were taken. She merely complained of a hot sensation in the stomach. No other effects noted.

Case 3.—(Reported from the Minneapolis City Hospital). A Mrs. R—, of Minneapolis, attempted suicide by drinking the contents of a two-ounce bottle of Benetol. Her husband going into her room found her hysterical and took her to the hospital with the empty bottle of Benetol. This was a prescription bottle and the interne inquired whether or not anything else than Benetol was in the prescription. The woman did not know. "Therefore" to use the words of the physician, "I decided to use a stomach pump." This was done about an hour after the swallowing of Benetol. "No other treatment was given. There was no action on the buccal mucous membranes." The patient was dismissed well the same day.

WHEN TIRED

When tired don't grit your teeth and work harder. Ease up a little and rest. The tissues and nerve cells of the body are constantly being torn down and destroyed and the system requires a reconstructive agent to help nature build new tissues, to construct new nerve cells, to build up the entire body and preserve strength and health and furnish the body with the right energy and active interest in life. There is nothing better to build up the entire system than good malt

tonic, such as golden grain belt beer. Order of your nearest dealer.

ENLARGED BUSINESS IN NEW QUARTERS

The Lewis-Painter Co. has moved from their upstairs quarters in the Medical Block to the commodious ground-floor quarters at 621 First Ave. S. They will also increase their line of goods from x-ray and therapeutic appliances to a complete line of physicians' and surgeons' supplies. They will carry only first-class goods, and will sell at one price only. The price of everything will be marked in plain figures, from which there will be no deviation except a proper cash discount.

We congratulate the profession, especially in the country, that this comparatively new house will do business in this way. The managers have proven themselves high-class business men; they have made a success of their business, having gained the good-will of the profession; and they have taken a long lease on their desirable place of business—in short they have come to stay, because they have found suitable recognition of their methods of doing business. Proper prices, high-grade goods, promptness in filling orders, courtesy, and a square deal will always pay in dealing with professional men.

A HIGH OPINION OF DIGALEN

H. G. Locke, M. D., Consulting Neurologist, Hospital of the Good Shepherd, Attending Physician Women's and Children's Hospital, Syracuse, N. Y., has expressed his high opinion of Digalen in a lengthy report, from which we quote the following sentences:

"In a dosage of from 6 to 15 minims of Digalen, given orally at intervals of from four to six hours, the results are relatively prompt and excellent, especially if administered on an empty stomach and without other medication. These results are constant, and there is no cumulative action; that is to say, six to ten minims of Digalen given every six hours, day after day, will produce no toxic effect. Once you establish the dose that is required in the individual case, it can be maintained from day to day without risk of sudden and alarming elevation of the blood pressure or the development of toxic symptoms.

"In combined valvular diseases of the heart, particularly in aortic and mitral insufficiency, Digalen may be employed with great benefit. I know of nothing that stimulates the heart and general circulation so well and evenly, without variations.

"As a cardiac diuretic, it seems to be as good as theobromin without the gastric disturbances. I have a great deal of trouble with theobromin on account of the dose being large, and I think Digalen is quite as good a cardiac diuretic.

"I have carefully watched the effects of Digalen in respect of its diuretic action and have found that within six hours after the administration of six drops there was in many instances an increase of several ounces in the quantity of urine excreted. In one case, which I have especially in mind just now, the amount of urine voided ran up from 17 to 40 ounces in the first 24 hours, with an increase in the urea as well. And in this instance there was an eventual elevation of the blood pressure of from 105 to 135.

"On the whole I consider Digalen a valuable addition to the materia medica, and I believe, from my clinical experience with it, that you have made a distinct and noteworthy step forward in this particular branch of therapy."

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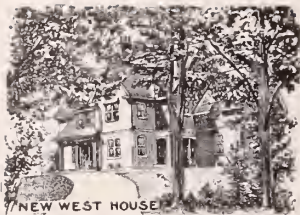
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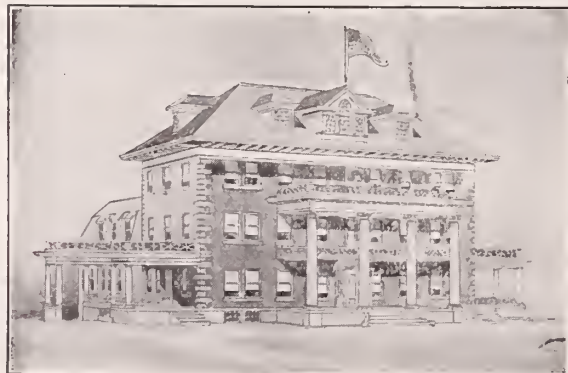
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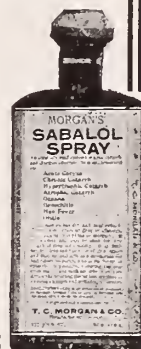
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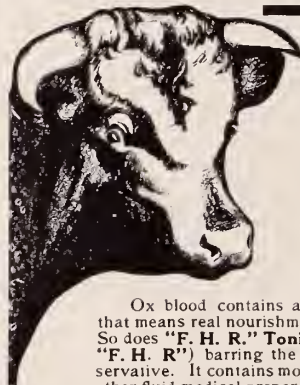
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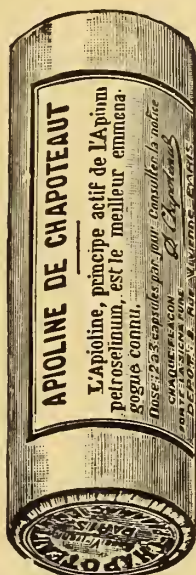
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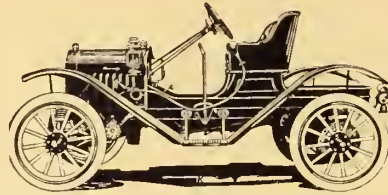
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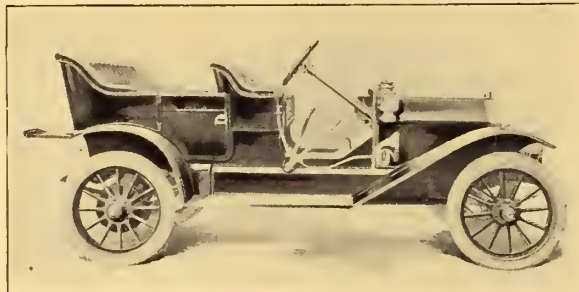
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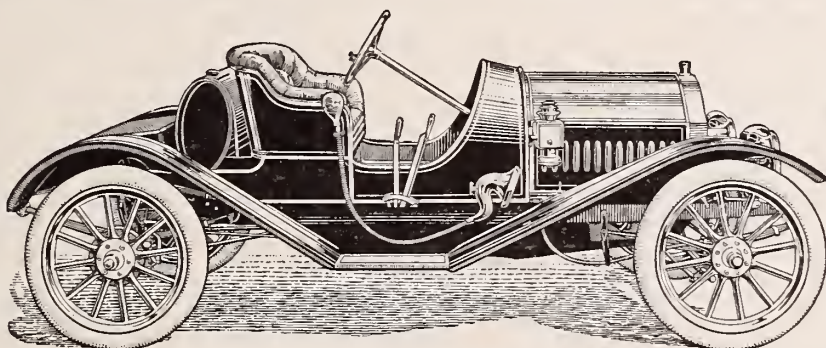
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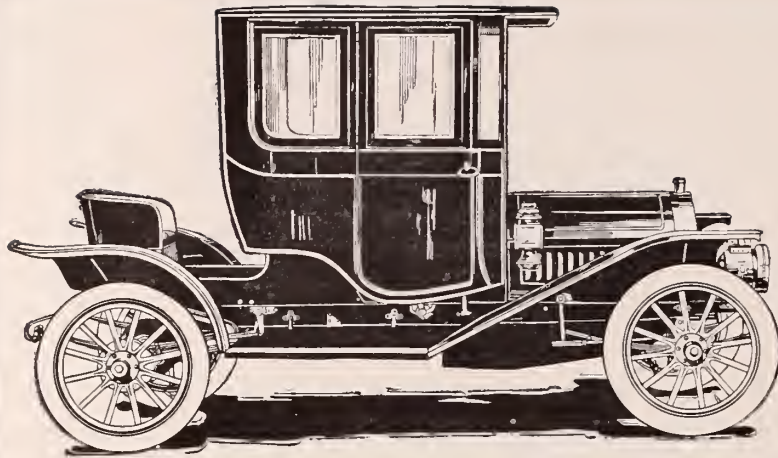
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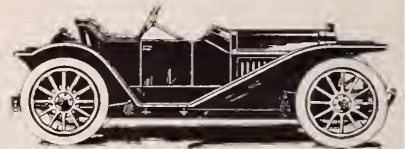
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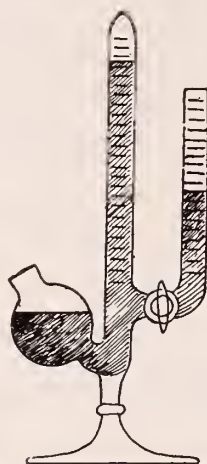
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No. 22

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St. Louis County	F. A. Grawn	Duluth
St. Louis County	C. F. McComb	Duluth
Scott-Carver County	H. W. Reiter	Shakopee
Southwestern District	W. E. Richardson	Slayton
Stearns-Benton County	W. L. Beebe	St. Cloud
Steele County	G. G. Morehouse	Owatonna
Upper Mississippi District	O. T. Batcheller	Brainerd
Wabasha County	W. J. Cochrane	Lake City
Waseca County	D. S. Cummings	Waseca
Washington County	E. E. Wells	Stillwater
Watonwan County	C. O. Cooley	Madelia
West Central District	B. M. Randall	Graceville
Winona County	Hans Lichtenstein	Winona
Wright County	A. L. Hill	Monticello

Place of Next Meeting

St. Paul, First Week in October, 1911

Proceedings

OF

The House of Delegates

FIRST SESSION, WEDNESDAY, OCTOBER 5, 1910

The first session of the House of Delegates convened in the library of the Hennepin County Medical Association, and was called to order by the President, Dr. W. A. Jones, of Minneapolis, at 2:30 P. M.

The Chair appointed as a committee on credentials Dr. W. E. Richardson and Dr. D. S. Cummings.

A quorum having been declared present, the first order of business taken up was the reading of the minutes of the previous annual meeting.

The Secretary: The proceedings of the last annual meeting were printed in the November 15th issue of the State Medical Journal and can be read by anyone who desires to read them.

On motion of Dr. J. W. Bell, the reading of the minutes of the last meeting was dispensed with.

The President: The Committee on Credentials is ready to report and the report will be read by the secretary.

REPORT OF COMMITTEE ON CREDENTIALS

W. E. RICHARDSON AND W. E. CUMMINGS

Your Committee has examined the credentials submitted and finds the following entitled to be seated as accredited delegates:

DELEGATES	SOCIETY
B. W. Kelly.....	Aitkin County
John Williams.....	Blue Earth County
J. A. Broberg.....	Blue Earth Valley
J. S. Scirader.....	Brown-Redwood
H. C. Cooney.....	Central Minn. District
W. J. Awty.....	Clay-Becker
R. G. Stevenson.....	Freeborn County
H. E. Conley.....	Goodhue County
J. W. Bell.....	Hennepin County
A. N. Bessessen.....	Hennepin County
G. D. Haggard.....	Hennepin County
F. E. Haynes.....	Hennepin County
L. A. Nippert.....	Hennepin County
H. L. Staples.....	Hennepin County
W. C. Portman.....	Jackson County
Christian Johnson.....	Kandiyohi-Swift
A. J. Cox.....	Lyon-Lincoln
G. A. C. Cutts.....	Meeker County
G. W. McIntyre.....	Nicollet-Le Sueur
H. S. Plummer.....	Olmsted County
L. A. Davis.....	Park Region District
J. M. Armstrong.....	Ramsey County
A. R. Colvin.....	Ramsey County
R. O. Earl.....	Ramsey County
J. L. Rothrock.....	Ramsey County

C. E. Dampier.....	Red River Valley
W. A. Hunt.....	Rice County
H. W. Reiter.....	Shakopee
W. E. Richardson.....	Southwestern
G. C. Morehouse.....	Steel County
S. H. Boyer.....	St. Louis County
F. A. Grawn.....	St. Louis County
C. F. McComb.....	St. Louis County
O. T. Batcheller.....	Upper Mississippi
E. E. Wells.....	Washington County
D. S. Cummings.....	Waseca County
C. O. Cooley.....	Watonwan County
W. J. Cochrane.....	Wabasha County
A. L. Hill.....	Wright County

The President: The next is the report of officers. We will first hear from the Treasurer.

Dr. R. J. Hill, the Treasurer, then submitted the following report:

TREASURER'S REPORT

R. J. HILL, M. D.

Dr. R. J. Hill, Treasurer, in account with the Minnesota State Medical Association

1909	Dr.	
June 17	Balance on hand June 8, 1909.....	\$3,599.46
17	Hennepin County Society.....	6.00
17	Houston-Fillmore Society.....	2.00
17	Rice County Society.....	8.00
17	Rice County Society.....	8.00
24	Blue Earth Valley Society.....	2.00
July 2	Camp Release Society.....	2.00
7	Ramsey County Society.....	22.00
7	Camp Release Society.....	2.00
13	Kandiyohi-Swift County Society.....	2.00
Aug. 28	Ramsey County Society.....	14.00
28	St. Louis County Society.....	4.00
28	Chisago-Pine Society.....	2.00
28	Clay-Becker Society.....	2.00
28	Camp Release Society.....	2.00
31	Steele County Society.....	6.00
31	Mower County Society.....	2.00
Sept. 17	Ramsey County Society.....	2.00
17	Park Region Society.....	2.00
17	Hennepin County Society.....	6.00
21	Blue Earth Valley Society.....	2.00
Oct. 5	Rice County Society.....	2.00
16	Hennepin County Society.....	10.00
16	Ramsey County Society.....	8.00
22	Brown-Redwood Society.....	2.00
30	Clay-Becker Society.....	6.00
30	Thos. McDavitt, returned for \$1,000.00 sent to invest.....	9.00
Nov. 20	Ramsey County Society.....	24.00
30	Aitkin County Society.....	4.00
		<hr/>
		\$3,756.46

1909	Dr.	
	Balance forwarded from page 1.....	\$3,756.46
Nov. 30	Freeborn County Society.....	2.00
Dec. 8	Refund from Secretary for N. P. Bond..	8.00
1910		
Jan. 3	Goodhue County Society.....	2.00
17	St. Louis County Society.....	2.00
Feb. 3	Red River Valley Society.....	5.00
28	Clay-Becker Society, 1910.....	9.00
28	Lyon-Lincoln Society, 1910.....	54.00
Mar. 10	McLeod County Society, 1910-1911.....	45.00
10	Central Minnesota Society.....	3.00
10	St. Louis County Society.....	3.00
10	Central Minnesota Society.....	2.00
17	Central Minnesota Society.....	2.00
17	Clay-Becker Society, 1910.....	81.00
21	Stearns-Benton Society.....	117.00
21	Jackson County Society.....	27.00
21	Wabasha County Society.....	36.00
21	Red River Valley Society.....	69.00
21	Olmsted County Society.....	3.00
22	Southwestern Society.....	84.00
22	Blue Earth Valley Society.....	33.00
26	Nicollet-Le Sueur County Society.....	42.00
26	Southwestern Society.....	3.00
30	Aitkin County Society.....	18.00
30	Central Minnesota Society.....	24.00
30	Houston-Fillmore Society.....	27.00
30	Goodhue County Society.....	54.00
30	Steele County Society.....	36.00

\$4,517.46

1910	Dr.	Balance forwarded from page 2.....	\$4,547.46	1	Clara Targeson, stenographer to Secretary	10.00
April	8	Red River Valley Society.....	21.00	21	A. G. Long, stenographer Annual Meeting	75.00
	8	Central Minnesota Society.....	6.00	27	Thos. McDavitt, Order of Council to invest	1,000.00
	8	Watonwan County Society.....	18.00	30	Geo. J. Hillyer, rent of chairs Annual Meeting	12.00
	8	Camp Release Society.....	120.00	30	Jones & Kroeger, badges, placards, etc., Annual Meeting	27.50
	8	Chisago-Rice County Society.....	42.00	30	Union Club, rent of rooms, Annual Meeting	25.00
	8	Washington County Society.....	42.00	Nov. 4	W. A. Jones, President Lancet Co.....	105.17
	8	Park Region Society.....	81.00	4	Clara Targeson, stenographer to Secretary	8.00
	8	Rice County Society.....	63.00	4	Thos. McDavitt, expense State Meeting and incidentals	25.00
	8	Blue Earth County Society.....	96.00	8	Security Bank, rental box, Treasurer..	5.00
	8	Waseca County Society.....	33.00	11	Wm. B. Joyce & Co., Premium on Treasurer's Bond	12.00
	8	Freeborn County Society.....	33.00	11	Thos. McDavitt, for investment.....	1,000.00
	8	Houston-Fillmore Society.....	12.00	13	American Medical Association Directory for Secretary	6.00
	8	St. Louis County Society.....	323.00	19	E. A. Hensel, expense as Councilor....	19.41
	8	Scott-Carver Society.....	24.00			\$2,909.46
	8	Jackson County Society.....	3.00	1909	Cr.	
	8	Lodge County Society.....	27.00	Nov. 19	Balance forwarded from page 1.....	\$2,909.46
	8	Wimona County Society.....	63.00	19	A. E. Spalding, expense as Councilor..	14.34
	8	Ramsey County Society.....	420.00	19	F. A. Dodge, expense as Councilor.....	4.25
	8	Hennepin County Medical Society.....	918.00	19	H. M. Workman, expense as Councilor	13.25
	8	Meeker County Society.....	36.00	19	A. O. Bjelland, expense as Councilor....	6.68
	8	Upper Mississippi Society.....	96.00	30	Clara Targeson, stenographer to Secretary	8.00
	8	Mower County Society.....	57.00	30	W. A. Jones, President Lancet Co.....	106.17
	8	Brown-Redwood Society.....	57.00	Dec. 17	A. G. Long, stenographer, State Medical Meeting	172.93
	8	Stearns-Benton Society.....	3.00	1910	Cr.	
	8	Kandiyohi-Swift Society.....	30.00	Jan. 3	W. A. Jones, President Lancet Co.....	106.17
	28	Houston-Fillmore Society.....	6.00	3	Clara Targeson, stenographer to Secretary	10.00
	28	Goodhue County Society.....	6.00	29	G. W. Cunningham & Co., supplies for Secretary	31.75
	28	Blue Earth Valley Society.....	3.00	29	Northwestern Lancet, 200 copies Constitution and By-Laws.....	7.00
			\$7,186.46	Feb. 2	W. A. Jones, President Lancet Co.....	106.17
1910	Dr.	Balance forwarded from page 3.....	\$7,186.46	2	Clara Targeson, stenographer to Secretary	10.00
April	28	Scott-Carver Society.....	3.00	2	Clara Targeson, stenographer to Secretary	8.00
	28	Olmsted County Society.....	87.00	2	Thos. McDavitt, Secretary, incidentals..	20.00
	28	Blue Earth Valley Society.....	3.00	10	J. A. Newell & Co., Premium Secretary's Bond	5.00
	28	Southwestern Society.....	3.00	30	E. R. Barton (Clay-Becker Secretary), dues paid twice	9.00
	28	West Central Society.....	57.00	April 2	W. A. Jones, President Lancet Co.....	106.71
	28	Waseca County Society.....	3.00	2	Clara Targeson, stenographer to Secretary	8.00
	28	Wright County Society.....	36.00	2	Curtis & Baker, note heads, Program Committee	2.00
	28	Park Region Society.....	9.00	9	N. M. Thygeson, retainer for Minnesota State Medical Association.....	100.00
	28	Camp Release Society.....	6.00	May 4	Clara Targeson, stenographer to Secretary	8.00
	28	Rice County Society.....	3.00	4	W. A. Jones, President Lancet Co.....	104.34
	28	Ramsey County Society.....	39.00	31	W. A. Jones, President Lancet Co.....	102.35
	28	Hennepin County Society.....	3.00	31	Clara Targeson, stenographer to Secretary	8.00
	28	Park Region Society.....	3.00	31	Thos. McDavitt, Secretary, salary to June 1st	300.00
	28	Scott-Carver Society.....	3.00	31	R. J. Hill, Treasurer, salary to June 1st	100.00
	28	Houston-Fillmore Society.....	9.00			\$4,493.74
May	3	Red River Valley Society.....	3.00	1910	Cr.	
	3	Hennepin County Society.....	3.00	June 2	Northwestern Lancet, 200 reprints roster	10.00
	3	Stearns-Benton Society.....	3.00	2	Luella Fiening, stenographer, annual report	2.50
	13	Olmsted County Society.....	9.00			\$4,506.24
	13	Camp Release Society.....	6.00	Supplementary Report of Treasurer Since June 10, 1910		
	13	Hennepin County Society.....	3.00	1910.	June 20, Peters & Baly, envelopes Secretary	\$22.74
	13	Houston-Fillmore Society.....	3.00	July 5	W. A. Jones, President Lancet Co.	104.17
	14	Ramsey County Society.....	27.00	5	Clara Targeson, stenographer to Secretary	10.00
	14	Hennepin County Society.....	3.00	Aug. 31	Peters & Baly, envelopes and printing	12.74
	14	Freeborn County Society.....	3.00	31	W. A. Jones, President Lancet Co.	213.07
	23	Freeborn County Society.....	6.00	31	Clara Targeson, stenographer to Secretary	18.00
	23	Central Minnesota Society.....	3.00	Sept. 17	Peters & Baly, programs.....	26.50
	23	Camp Release Society.....	3.00	28	W. A. Jones, President Lancet Co.	107.75
			\$7,528.46	28	Clara Targeson, stenographer to Secretary	8.00
1910	Dr.	Balance forwarded from page 4.....	\$7,528.46			\$522.97
May	27	Camp Release Society.....	3.00			
	31	Freeborn County Society.....	3.00			
	31	Hennepin County Society.....	3.00			
	31	West Central Society.....	3.00			
June	4	Hennepin County Society.....	3.00			
	4	Upper Mississippi Society.....	9.00			
		Total receipts.....	\$7,552.46			
		Total expenses to June 10, 1910.....	4,506.24			
		Balance on hand.....	\$3,046.22			
Dr. R. J. Hill, Treasurer, in account with the Minnesota State Medical Association						
1909	Cr.					
June	19	Northwestern Lancet, Reprints Roster..	\$8.50			
July	5	W. A. Jones, President Lancet Co.....	100.00			
	5	Clara Targeson, stenographer to Secretary	10.00			
	14	J. W. Andrews, Committee Medical Legislation	.99			
	14	Free Press Printing Co., Mankato (folders)	4.00			
Aug.	28	W. A. Jones, President Lancet Co.....	102.00			
	28	Clara Targeson, stenographer to Secretary	8.00			
Sept.	1	Peters & Baly, envelopes for Secretary	19.50			
	1	W. A. Jones, President Lancet Co.....	103.00			
	1	Clara Targeson, stenographer to Secretary	8.00			
	2	Benjamin Taylor, H. L. Schmitt & Lorin Gray, fee services to Committee Revision Medical Law	105.61			
	2	J. W. Andrews, Expense Chairman Committee Revision Medical Law.....	5.61			
Oct.	1	W. A. Jones, President Lancet Co.....	104.17			

Receipts since June 10.....	\$3,279.22
Expenses since June 10.....	522.97
Balance on hand Sept. 30.....	\$2,756.25
Supplementary Report of Treasurer Since June 10, 1910	
Dr.	
Balance on hand as per June report....	\$3,046.22
June 18, Blue Earth Valley Society.....	3.00
20, Waseca County Medical Society.....	3.00
20, Hennepin County Medical Society.....	3.00
20, Chisago-Pine County Medical Society....	3.00
20, Camp Release District and Medical Society	3.00
July 2, Olmsted County Medical Society.....	3.00
7, Kandiyohi-Swift County Medical Society	6.00
21, Ramsey County Medical Society.....	18.00
Aug. 8, Southwestern Society	12.00
8, Blue Earth Valley Medical Society.....	12.00
8, Hennepin County Medical Society.....	21.00
8, Southwestern Society	3.00
17, Red River Valley Medical Society.....	9.00
17, Scott-Carver County Medical Society....	3.00
17, Hennepin County Medical Society.....	3.00
17, Scott-Carver County Medical Society....	3.00
31, Clay Becker County Medical Society....	3.00
Sept. 3, Red River Valley Medical Society.....	3.00
14, Hennepin County Medical Society.....	18.00
14, Camp Release District Medical Society....	3.00
20, Ramsey County Medical Society.....	9.00
20, Hennepin County Medical Society.....	3.00
20, Brown-Redwood County Medical Society	3.00
20, Red River Valley Medical Society.....	3.00
28, Interest on \$2,000.00 N. P. Bonds, due June 1 and Dec. 31, 1909-1910.....	80.00
	<u>\$3,279.22</u>

On motion of Dr. J. W. Bell, the report of the Treasurer was unanimously adopted.

The President: We will next listen to the report of the Secretary.

REPORT OF THE SECRETARY

THOS. McDAVITT, M. D.

The Secretary has to report a membership of 1310 to October 5, 1910. The different component societies have met with reasonable regularity, and a number of valuable papers have been read. Several societies have added a special meeting for study, and their meetings have been well attended.

The medical defense scheme went into effect April 1st. An attorney was retained to take charge of proceedings for the Association. We have so far had three cases. Two of them were cases wherein the charge of malpractice was made in answer to attempts on the part of the doctors to collect their bills. The other was a straight malpractice suit.

The House of Delegates should instruct the Council in reference to its desires as to construing and defending cases wherein malpractice is set up as an answer by a debtor to prevent paying a doctor's bill. Many straight medical defense companies refuse this class of cases, as not malpractice cases.

The question of the change of our fiscal and roster year to coincide with the calendar year should be taken up, in order to simplify and unify the work. This change is strongly advised to all the state organizations by the committee of the American Medical Association having that in charge, and it would be a measure of economy.

On motion of Dr. J. L. Rothrock, the report of the Secretary was adopted.

MEDICAL DEFENSE

The President: We are now ready to discuss the points raised by the Secretary in his report. The first point is that of medical defense.

The Secretary: As to that feature I would

like to state that as a rule the majority of the so-called malpractice suits are caused by doctors suing for bills, and as an offset, rather than pay the bill, the debtor brings in a counter-suit for malpractice, thereby causing a certain expense as an offset to the bill. If we as an association desire to have this fund spent in that way it is for you to order, but, as you understand, it is nothing more or less than assisting doctors in the collection of their bills. It simply makes the State Association one big collection agency. However, if you desire to do so, I fear if we enter into that kind of a scheme a dollar a year is not going to do it. Some of these companies will not accept these kind of cases. In fact, in one such so-called malpractice suit the Ft. Wayne company and another company absolutely refused to accept the case at all, stating it was not a malpractice suit under any circumstances. A good deal of argument can be cited on either side of the matter, but when you come to look at it closely you will find it is a little singular to have a doctor as a creditor bring action against a man, and then have the debtor put in an answer for malpractice, and then have the doctor come in and ask the State Association to defend him, the whole thing really amounting to the collection of a bill. I think it would be better to take this matter under serious consideration before we decide what we want done, because, I feel sure, if we accept this class of cases we shall have to increase our fund materially, and as it is established for the purpose of defending straight malpractice cases, I think we can get along on a dollar a year if we limit it to those cases only.

Dr. G. W. McIntyre: I would like to ask this question: It seems to me I have heard somewhere that a person could not bring a malpractice suit unless he had first settled his bill. Is that true?

The President: Oh, yes, he can. That has been tried two or three times.

Dr. G. W. McIntyre: It seems to me if a doctor was sued for malpractice it would be malpractice whether the other suit were pending or not. If a doctor is sued for malpractice it appears to me that covers the ground. I think it would be better to include the whole business even if it did increase the fees.

Dr. Christian Johnson: Mr. President, I rise for a little information on this subject. I would like to know whether I understand this question correctly. There are evidently two kinds of suits as I understand the situation. If a man is sued

out and out for malpractice after his bill is settled, then the Association would defend him; but if he is suing for his bill and a defense is put in in the form of a malpractice complaint to avoid payment of the bill, then this Association would have nothing to do with it. Is that correct?

The Secretary: That is just what we are trying to decide.

Dr. Christian Johnson: I want to convince myself whether I understand the question correctly or not. As a matter of fact I do not see how we can separate these cases. We know that, as a general thing, those who bring malpractice suits are those who are able to pay, but they do not pay, as a rule. We have no protection against those dead-beats who do not pay; we seem to have no protection at all. I do not see how we are going to make that plan work. If these men do not pay up their bills and there will be a lawsuit to defend, I do not see where there is any difference, as in the case where a physician is sued after a bill is paid.

Dr. H. C. Cooney: I am somewhat interested in this matter, for I am at present the defendant in a ten thousand dollar damage suit or malpractice suit. Now, there was no question about this matter until my attorney brought action against the party for the collection of a fee. Previous to the beginning of this action the man wanted to settle for a reduction, which I refused; then his attorney brought a counter action for malpractice, suing for ten thousand dollars. I think there is chance for argument on both sides of the question. I feel about the same as Dr. Johnson, not because I happen to be defendant in one of these suits, but most of these cases arise through the settlement, or attempted settlement, of bills, and there are not many where the settlement of a bill does not enter into consideration. I never would have had trouble in his case if I had been willing to accept fifty per cent of my bill in settlement, which I refused to do. I don't believe you can get around this matter. If we have enough money to take care of these cases that are on now, we ought to have enough money to take care of these other cases. I think the idea is in the minds of debtors that by this means they can force a physician to a settlement of bills on their own terms. As some of the larger companies have refused to defend cases of this kind, the Medical Protective Association of Ft. Wayne provided for the exclusion of these contingency malpractice suits arising from the settlement of a bill, so they do not all take that ground.

Dr. Davis: I believe in case a man sues for a bill that is no reason why he should not be defended in case a malpractice suit is begun against him, and it seems to me if one dollar is not enough to answer the purpose we ought to collect more. I know the first time this medical defense proposition was brought before the Association most members thought one dollar was sufficient, and it seems to me there is not much distinction between the cases, because, morally, we have a right to sue whether a malpractice suit follows or not. This is like the scheme of those old protective companies, and we ought to do better than they do.

Dr. A. N. Bessessen: I would like to have that question of Dr. McIntyre's answered. That is an important point. If a suit for malpractice cannot be brought as long as they have not paid their bill we ought to know it; and I would also like to know what is the general experience if a man does not pay his bill and a malpractice suit follows—whether he drops his suit if you make a defense or does he carry it to a termination?

The Secretary: My experience is it is usually dropped.

Dr. Geo. D. Haggard: In one case I sued for the collection of a small bill, and a counter-claim was made for malpractice. When the case came up in court the case was decided against them, and they had to pay the costs and the bill. In some courts they do not allow a counter-claim for malpractice before the bill is paid.

Dr. L. A. Nippert: I know of a case in which an expert witness had sued for a fee, and the patient turned around and sued for malpractice. The case was tried five or six days, and the decision was made that the physician could not be sued before the bill was paid.

The President: Is this Association to go on record as defending every man's bill? If so, we are going to be swamped. That means the raising of dues very materially. If there is anything the average organization objects to, it is the raising of the dues.

Dr. Alex. R. Colvin: It seems to me there is little doubt whether, if a suit is entered to collect a bill and the people enter a plea of malpractice, we should help them collect their bill or help to defend the suit for malpractice. When a suit is entered to collect a bill, they simply set up the plea of malpractice. That does not institute the suit until they bring it, and I think the point should be raised as to whether the Association should help the doctor collect his bill.

That is a different thing from defending a suit for malpractice.

Dr. F. E. Haynes: I am a young man, and this is my first appearance as a delegate, but I would like to suggest this: in view of the fact that we have invested our money in bonds, it looks to me as though two dollars out of every man's dues at the present time could be set aside to increase our amount of money in the treasury to defend malpractice suits. This is my suggestion to add to the money in the treasury.

Dr. Christian Johnson: My rising again is to inquire as to our financial status at present. How much did we spend last year and how much have we on hand?

The President: One hundred dollars, and nothing was spent except in the way of retaining fees.

Dr. Johnson: Then we have no idea what the expense is?

The Secretary: The only thing we know is what we have absolutely spent.

Dr. Johnson: Have you no idea how the balance would stand?

The Secretary: No, I have not.

Dr. Johnson: We get in a dollar per member for that defense fund; that would be thirteen hundred dollars.

The Secretary: Yes.

Dr. Johnson: The question is what we can do for that \$1,300 in the shape of defending these malpractice suits. I am not a lawyer, but it seems to me where one-half are sued for a fee the other half are made defendants in a malpractice suit. That seems to be the shape in which these suits originate. I do not really know how we can get around that. If we can have any defense in these suits that come as a result of trying to collect our bills, I do not believe this defense will amount to anything, because, as has been said, when we try to collect our bills from dead-beats is the time when we get malpractice suits on our hands. Parties who pay their bills do not sue for malpractice, or hardly ever.

The President: If the Association is willing to leave this matter to the officers and the attorney we may be able to work it out. The \$1,300 may possibly be enough, but, anyway, some satisfactory proposition may be worked out.

Dr. Geo. D. Haggard: I believe three cases have been instituted and \$1,300 has been collected. If \$1,300 will cover three cases we ought to be safe this year. Another thing in regard to a remark that was made here: it seems to

me the collection of a bill is merely an incidental matter. We are constantly losing bills where no answer is ever made by the debtor. Most of us have gotten used to that. The matter of defense is a vital proposition to which we ought to give the utmost consideration.

Dr. W. E. Richardson: It seems to me those fellows that come back at us with malpractice suits are darned mean cusses, and I am as unable to pay as the other members, but I am willing to have my dues raised to ten dollars and have this defense feature kept up, although I have never had a suit for malpractice and hope I never shall.

The President: That's the way to talk.

Dr. Richardson: Raise our fees, but don't drop the defense feature.

Dr. Christian Johnson: I move the officers of this Association be authorized to defend all malpractice suits entered against members during the coming year. They can make their report to the Association next year and more money can then be appropriated if necessary.

The President: That means that the officers of the Association and the Council are authorized to defend these cases irrespective of whether a bill has been sued for or not.

Dr. Christian Johnson: I don't see how you can limit that. I don't believe one year is going to swamp us, and I am willing to pay my share.

Dr. H. S. Plummer: I had this question brought to my mind before this afternoon, before the matter came up here. The question is, what is the purpose in defending malpractice suits? First, it plays an important part in protecting a man from exorbitant expenses, which sometimes occur in defending a malpractice suit. Second, it has a retarding effect against those who are tempted to bring suits of that nature from the knowledge they gain that the physician is being backed up by some large organization, and they will rather hesitate to begin such an action. A malpractice suit does not act to the advantage of any doctor. When it comes right down to the question of whether he will settle the bill or fight a malpractice suit with all its publicity and expense, the doctor is foolish to allow a malpractice suit to be pressed if he can settle for the price of the bill. No matter what the moral issue or principle may be, it is not unnatural for the doctor to take that view of the matter. If a bill was sued for and a counter-plea was entered of malpractice, and that would be dropped by the dropping of the bill the doctor would be foolish if he did not accept that proposition, but

if it could not be settled that way it might be well for the State Association to defend the suit, but if it can be settled for the price of the bill I think it would be foolish to prosecute the contingent suit. It is a serious detriment to any doctor, no matter how well grounded the defense may be. I believe it is an ill advised action, and I believe the majority of the profession, if they will take time to consider the matter in all that it carries with it, will agree with me. It involves a moral question, of course, but it is also a question of what is best for the physician.

Dr. L. A. Nippert: Does Dr. Johnson's motion mean that it shall be left to the discretion of the officers as to what constitutes a malpractice suit?

Dr. Johnson: The officers are simply instructed to defend these suits.

Dr. C. W. McIntyre: I do not believe it is advisable to drop a bill simply because some dead-beat does not wish to pay and sets up a counter-claim for malpractice. I don't believe the President of this Association would do it, and I do not believe he would advise anyone else to do it. If we are to have protection against malpractice suits it ought to cover all of them. Aside from suits brought for such a motive I do not believe the ordinary physician will be troubled with malpractice suits.

Dr. H. M. Workman: It seems one point in this medical defense proposition has been overlooked. The physician is not being sued for malpractice. It is up to him to defend the bill. He is the plaintiff in the action: he is not the defendant of the suit at all. He is plaintiff and brings action for the bill. He is not sued for malpractice.

Dr. Geo. D. Haggard: While the man is not defendant for malpractice he is defendant for the amount of his bill.

The President: That is not the point.

Dr. Christian Johnson: I am not a lawyer, I know nothing about the law, but the minute the malpractice issue is raised the doctor becomes the defendant in a malpractice suit. To all intents and purposes he must defend it, and if you say he cannot do it you might as well drop the entire defense feature.

Dr. H. C. Cooney: The way I look at the matter is this: I do not care personally whether the attorneys for the State Medical Association help to collect my bill or not. I have an attorney for that purpose, but if you are going to establish a protective feature, that is a differ-

ent matter. No matter for what reason the suit is started, whether it is for attempting to collect a bill or not, I am not asking you to collect a bill, but simply ask protection from malpractice suits that may come up, and as a rule they are more likely to come in connection with the collection of a bill. I don't think that feature amounts to anything. I don't care whether the Association collects a bill or not. I have my attorney to do that, but when it comes to the question whether it is a real malpractice suit or not I want to know whether there is anything we can count on, irrespective of where or how the suit starts.

The President: When an attorney tries to collect a bill, and the patient alleges malpractice, do the courts permit him to introduce evidence at the time the suit is up for the collection of the bill?

Dr. Christian Johnson: Certainly they do.

The President: That leaves no option at all.

Dr. Johnson: It is optional with the attorney and the Association to say whether they will undertake to defend a case or not. You do not have to defend every case that comes up. It is only such cases as the officers of the Association and the attorney decide are entitled to defense.

Dr. Johnson's motion, authorizing the officers of the Association to defend malpractice suits during the ensuing year, was then put to a vote and prevailed unanimously.

Dr. G. W. McIntyre: Would the committee or the officers be compelled under the doctor's motion to defend these cases contrary to the specifications that are now contained in Chapter 4, or would it be subject to the by-laws?

The President: Certainly to the by-laws. I don't know whether we want to make it retroactive to take in Dr. Cooney or not. (Laughter.)

ADMISSION OF RESEARCH PROFESSORS

The Secretary: Dr. Mann gave notice at the Winona meeting of a change in the constitution, which necessarily had to lie over one year. The change proposed is as follows:

"That graduates in medicine, in good standing before the profession, and occupying positions of teaching and research, in the employ of the state, be admitted to full membership in the Minnesota State Medical Association without license by the State Board of Examiners."

Dr. L. A. Nippert moved the adoption of the proposed addition to the constitution.

Dr. J. W. Bell: I would like to inquire as to the ruling of the American Medical Association on that point. This is the third time we have had that question up, and at the last meeting of the Association when the matter was up for consideration I think there was some question as to the attitude of the American Medical Association in regard to this matter. Dr. Green was speaking in regard to it, and I think in the Transactions we have something from him bearing upon the subject. There was some question as to whether we could act—as to whether this Association had power to act.

The Secretary: The American Medical Association is in its attitude on all questions of this kind entirely dependent upon the attitude of the state association. It does not go behind the returns of the state association. The state association reports such and such a man a member and the national association never asks a question. As long as he comes through the proper quarter they pay no attention, the same as the state association pays no attention to the members coming from the county association; whomever they send in we consider entitled to membership. So far as this point is concerned, men who are engaged in research work and have never had occasion and never will have occasion, to take the state board examination can be admitted, and the American Medical Association is in favor of such action. The only unfortunate feature about permitting such an addition to our constitution is this: The present attitude of the medical profession itself is absolutely in favor of admitting no man who is not licensed by the proper board, and if we let the bars down an inch it will not take long to let them down a foot. But as far as the American Medical Association is concerned on this point, I can vouch for the fact that it is favorable and willing that these men engaged in research work should be recognized, and I think it would be a good idea for us to do so.

Dr. Christian Johnson: I would like to know whether it would not be a good plan to admit them as honorary members?

The Secretary: They are such already, Doctor.

Dr. A. J. Cox: It does not give them any more liberty than they have now, and as Dr. McDavitt says, when you begin to let the bars down you are liable to let them down too low. After we have once let them down we will have no excuse to put them up again.

The Secretary: I think Dr. Bell can speak concerning the attitude of the research men.

Dr. J. W. Bell: I am not opposed to this measure. It was discussed pro and con, and it was thought best to bring the matter before the Association for action. The question was simply on the attitude of the American Medical Association at the present time on the research question. I am in favor of admitting men who are engaged in research work. I think they should be admitted.

Dr. Leo Crafts: I would like to ask of what value the research work is, and I would also like to ask what difference it would make whether such men became active or honorary members.

Dr. J. W. Bell: I would like to answer the doctor's question. An active member is permitted to hold office and an honorary member is not. Perhaps there are other distinctions; however, these men are anxious to become active members.

Dr. Crafts: I cannot see why they should take an active part in the conduct of the Association if they do not intend to go into practice. I think it would be entirely improper.

Dr. C. F. McComb: I want to go on record as saying that it is a very dangerous thing to let down the bars.

Dr. F. A. Grawn: I would like to go on record as opposed to this measure. I do not think any one should be allowed to become a member of the State Association without taking the examination.

Dr. Christian Johnson: I move a secret ballot be taken upon this question. (The motion was not seconded.)

Dr. W. E. Richardson: I would like to ask why those men are not active. They have read papers and given demonstrations, and why are they not active?

The President: They are invited to read papers because they are men of research and have some scientific attainments that the medical man does not possess.

The Secretary: They don't pay dues.

Dr. J. L. Rothrock: It seems to me I can see no objection to these men coming in as active members. These men are working in the laboratory department of the University, and we owe a great deal to them, and it seems to me they should be entitled to active membership.

Dr. C. F. McComb: I have no desire to disparage the work of these men because it is something we are all interested in, but I think it active practice afterwards. I hardly think we should establish such a precedent.

The President: Any research man who is

not in practice, but who is an honorary member of the Association, if he desires to go into practice will have to go take the regular examination.

Dr. McComb: How do we know?

Dr. B. W. Kelly: I am reminded of the attitude of the fellows at the University of Michigan in my student days, when a man who was an A No. 1 teacher, and had been for years considered to be one of the first teachers in the country, and had absorbed very much of his manner and methods in teaching and was recommended by him as his successor,—when he was supplanted by a man who had no medical degree, simply because this other man would feel more sure of the position because he was an authority on the subject. This man afterwards obtained his medical degree and became noted as a teacher. But we boys felt then as we feel now about these men coming into the State Medical Association under similar circumstances, that, while we had nothing against him personally, it seemed that a man like that should possess something more definite as to qualification, and so it seems to me in this case, we should be going a little further than called for. At the same time I am not making any criticism of these men, either in their teaching or personality. If any of us should be made honorary members of an organization in which a similar condition existed as exists here, I think we should feel honored by the distinction, and if these men are, as I know them to be, splendid and able men, interested vitally in the work of this Association, then it is to their interest and to ours to have them co-operate with us as far as possible, but when it comes to taking an active hand in the direction of the affairs of this Association—holding office and so on—that is a different matter, and I do not think it is essential to a man engaged in the teaching profession.

The motion offered by Dr. Nippert to adopt the proposed change in the constitution was then put to a vote and declared lost.

Dr. W. E. Richardson: Would not these men by taking the examination be equipped to practice medicine?

The President: Certainly.

REPORT OF DELEGATES TO THE A. M. A.

The President: Dr. McDavitt, have you any new business to bring before the House of Delegates?

The Secretary: Dr. McComb might have a

report to make as delegate to the American Medical Association.

Dr. C. F. McComb: I have no report to make. I think everyone will receive or has received the proceedings. I was very much interested in the meeting, and one of the principal things that I enjoyed more perhaps than anything else was the president's address which was a very able production. As to what transpired in the House of Delegates, you all have received notice long before this. I think everyone who attended was satisfied that it was one of the best sessions and one of the most enjoyable meetings that the Association has ever held. There was a very large attendance.

Dr. J. W. Bell: I wish to say in connection with the doctor's report of the last meeting of the House of Delegates, that the delegates were instructed to inquire into the situation concerning our medical practice act, and to bring up, and if possible to secure, or at least initiate, an effort in the direction of a uniform practice act. I would like to hear if anything was done in that direction. I think the most absurd thing imaginable is the present varied medical practice act. It is an absurdity from beginning to end, and some action ought to be taken in reference to a uniform practice act.

The Secretary: Such action is under consideration at the present time in committee. It is a very large undertaking, but it has been under consideration for years.

EXPENSE OF FUMIGATION AND CULTURES

Dr. Geo. A. Stevenson: As a delegate and a member of the committee from the Freeborn County Medical Society I was asked to present the subject to the House of Delegates for action in regard to the expense of fumigation and the expense of taking cultures, etc., especially in cases of diphtheria, and whether we want to take the matter before the legislature at its next session; and it was thought the only thing to do would be for this body to take action upon the matter. I have reference to the expense in a case of diphtheria, for instance, where the case has reached a stage where the doctor in charge is able to drop the case so far as any further medical attention required is concerned, and still he is obliged to visit the patient times innumerable in some cases for the purpose of obtaining cultures and sending them to the state laboratory until the proper number of negative cultures can be obtained. The expense of these visits and the expense itself nec-

essarily falls upon the patient, and the fumigation follows along the same line. The patient is obliged to pay for fumigation, that being an operation entirely for the protection of the community at large and not for the benefit of the family in quarantine. They no longer being in danger of the disease, the fumigation, as we know, is entirely for the protection of the general public. In this matter we simply want to recommend that the House of Delegates take some action so that it may be presented to the legislature at its next session and see if, in some way, the state could not be made to assume the expense of fumigation, and also in some way arrange for meeting the expense of taking cultures or pay some officer for that purpose.

Dr. Kelly: I think if Solomon were alive he would say that of the passing of resolutions and the making of laws there is no end. I think the same could be applied to Dr. Stevenson's suggestion. The present law, it seems to me, is ample to take care of the matter except the matter of express charges. Everything else is provided for. Our country is new, and to many of the people those extra charges are quite a burden, but the law provides that these bills for would be establishing a dangerous precedent, and I think any man who can become an honorary member of this institution without taking fortune. It seems to me if we establish this precedent it may have results more far-reaching than we have knowledge of now. We may take in these men and some of them may enter the examination should consider himself very fumigation, disinfection and the taking of cultures are a direct charge upon the municipality or community. The municipality may pass it on to the individual if it sees fit or if the individual is able to pay. In our community we simply try to use a little common sense and Christian charity, and the practice which I have followed and which I have advised the town board to follow is this: If the patient is able to pay for his care and attention or for services to his family, he is, of course, expected to do so. If the patient is in ordinary circumstances, he is also able to pay for fumigation and also for the material and services; but if the patient has a family and is poor or in humble circumstances, then I say to the board that it is a recognized fact that this disinfection is for the benefit of the public only and not for the individual, and that the public must pay for it, and it is charged against the municipality.

I think the way our law reads today we have

ample protection on that score and there is no necessity for further legislation.

The President: This is a matter for the local board of health to bring before the state board. It should be a matter for discussion at the Sanitary Conference, which is now in session, rather than here where it evidently has no place.

FEES FOR LIFE INSURANCE EXAMINATIONS

Dr. C. F. McComb: Since we do not meet again until Friday morning, there is one point I wish to bring to the attention of the House of Delegates, and I think it is important that it should be followed up. Three or four years ago the House of Delegates, in accordance with the action of the American Medical Association, drafted a schedule of fees for life insurance examinations. I want to inquire whether there was anything done in that regard last year. We adopted such a schedule, and for a time it worked well and was lived up to, and I can speak in that respect especially for St. Louis County. Today there are a great many violating that schedule; in fact most of the men are doing about as they please in that regard. I understand the schedule is disregarded especially in the Twin Cities, although I do not know how it is in the country districts of southern and western Minnesota. I would like to hear from some of our members in those portions of the state. I think we ought to take action on this matter in the way of making the schedule binding, or else rescind it altogether and let every one have an equal show.

The President: The State Medical Association declined to consider the matter, and left it entirely to the county societies. Each county must settle its own difficulties.

Dr. C. F. McComb: The State Association proposed that schedule, recommended it, and adopted it.

The Secretary: It was simply advisory and was not made binding at all by the State Association. It is just as it is in every other respect. Every county society is expected to take care of its own problems in any way it desires. The recommendation by the State Association was simply advisory that five dollars should be the rate taken into consideration, and that is as far as it has gone. The American Medical Association took this matter up, but it laid down no absolute rule, and it was merely advisory to the state associations, the same as the action of our State Association was advisory to the county societies.

Dr. A. J. Cox: The doctor asked how we did in southern Minnesota. The Lyon-Lincoln County Society adopted a fee of five dollars for old-line and three dollars for fraternal companies. As far as I know the men are all sticking to it.

Dr. McComb: I think the Secretary ought to explain this to the members of the Association throughout the state, because I know they are laboring under a misapprehension. I was a member of the House of Delegates at that time and remember distinctly that we passed such a schedule.

The Secretary: If Dr. McComb remembers it I am in error.

Dr. McComb: Every county society was supposed to carry out the schedule fixed by the State Association.

Dr. Christian Johnson: It was the advice of the State Association.

Dr. McComb: I don't remember anything about the advice, but I know such a schedule was adopted and was supposed to be adhered to by the county societies. I know in St. Louis county we considered it a breach of the schedule if we made an examination for less than five dollars. This is certainly a misunderstanding. If the State Association never adopted and promulgated such a schedule there has certainly been a serious misunderstanding for the past three years. We are just where we were before we had the schedule.

Dr. Cox: We brought that up either in St. Paul or Minneapolis, and it was adopted as the sense of the Association. I know we had a fight with the insurance companies, and I did not make an examination for two years, but finally when they saw they had to pay five dollars I commenced doing business again.

Dr. McComb: The majority of the county societies are living up to it, but I understand it is disregarded by examiners in the Twin Cities, and I know it is disregarded by a great many, certainly in Duluth. They thought it was the edict of the State Association and that we must not violate the schedule. That is the impression we had up there. The reason I spoke of having it rescinded is because they are violating it right and left at this time.

The President: I think we had better let this matter lie over until our meeting on Friday. In the meantime we can look up the record of the meeting at which Dr. McComb claims this action was taken and find out just where we are at.

Dr. Williams: The Blue Earth Society adopt-

ed a resolution to the effect that we would charge three dollars and five dollars, and I think every member signed that agreement.

Dr. G. G. Morehouse: We have one retired physician who examines for three dollars in spite of all we can do. He examines old-line for three and fraternal for one dollar.

The President: Some old-line companies pay five.

Dr. Morehouse: Yes, some of them pay five.

Dr. W. A. Hunt: The Rice County Society adopted a schedule which we supposed was recommended by the State Association, which was five dollars for old-line companies and two dollars for assessment companies, and we have lived up to it every year so far, I think. We have our suspicions of the Twin Cities that there was a little letting down.

The President: Are you very sure the letting down was in the Twin Cities? (Laughter.)

Dr. McComb: As long as the situation exists as it is today I think some action ought to be taken, either one way or another.

The Secretary: The action of the State Association could not be anything but advisory. It would be absolutely impossible to make it mandatory, because in order to make it mandatory there must be some power of punishment. The State Association has absolutely no power to punish. The discussion here and at the time referred to by Dr. McComb was along this same line, but the action taken was only advisory because it would be utterly impossible to take any other action. We have no means of prescribing punishment because that function is entirely within the domain of the component societies. The State Association has no right to force a man out of membership or to take him in. The State Association can take no action except in an advisory capacity.

RECIPROCITY

Dr. Cox: There is one thing I would like to say as long as this subject is under discussion. When we receive members from other states it seems to me we should inquire a little more closely into their moral character and their qualifications. We have a member in this state who is practicing medicine who was accused of having three wives. He could not practice medicine in this state until he went to Wisconsin and got a license, and then he came to this state and registered. He comes in contact with decent men in this state and is just as bad as he ever was, although I understand in some way he got

rid of some of his wives. How can we get rid of him?

Dr. Christian Johnson: A year ago we had a discussion upon the medical practice act in this state, reciprocity, and so on. Since that time we have had the Carnegie report on medical education in the United States, and that report brought information to us that we did not possess before. It has, as a matter of fact, shed light on this question of medical education in the United States as nothing else has ever done, and we find there are actually in many places in the United States, notably in Philadelphia, New York, and Chicago, colleges that do not give any kind of medical education to their graduates, but they are graduated and come into Minnesota under reciprocity. There is something wrong about that. I know, for instance, a man in the western part of the state who comes from a college somewhere in Missouri, which college, according to the Carnegie report, has absolutely no qualifications to give any kind of medical treatment. There are many others of the same kind. While I am not one of those who believe in extreme requirements, we in Minnesota do not know anything about these half-baked colleges. It seems the Lord has favored this state in the matter of a medical college, and as a result we have an exceptional aggregation of medical men. We passed a medical practice act in 1883, and we have excluded the poor ones since that time. Our requirement in the University of Minnesota is very high; it is as high as that of any college, and our boys, if they want to practice medicine in this state, are required to study medicine six or seven years before they are qualified to practice. We do not ask that the requirements everywhere be raised as high as that, but we want justice done in this matter and we want excluded the other colleges that do not have the proper requirements. We do not want men to come here from other states and sneak past the examining board under the cloak of reciprocity. I am in favor of reciprocity, but it should be along fair lines. If our medical examining board had not educated the authorities up to where we have something that is a little better than anything else in medical education we should be as bad as the others. I want the medical examining board to do justice to the boys of Minnesota. I believe resolutions to that effect would be in order and that this Association should take a stand in the matter. There is a man from this Ainsworth Medical College and another from Sioux City

Medical College. One has no education or attainments of any kind, yet he is a licensed physician by reciprocity. I should like to hear an expression on this subject from others.

The President: Does that man belong to the county society?

Dr. Johnson: Yes, he does, and how are you going to exclude him? He is not wanted in the organization, yet at the same time he is licensed to practice in the state; he is legally qualified to practice; he is in a city with four or five other physicians; and how are you going to keep him out of the county society, although the members know he is not qualified by education to practice? I now refer to a man who was a brakeman four or five years ago. You may think such cases do not happen today, but they do. That happened twenty-five years ago and we supposed that sort of thing was over with forever. At least I did. We find men graduated from medical colleges in Chicago, St. Louis, and other places, who have absolutely no qualifications, but they are licensed in Iowa, Wisconsin, or some other state, and they come into Minnesota by reciprocity. I am in favor of reciprocity, but I want just reciprocity. I believe this House of Delegates ought to take some action in this respect.

Dr. A. J. Cox: I think this is an important matter. I think a good many are not cognizant of the fact that such things are going on. The medical profession is one that ought to maintain a high standard, and when we see men of the character mentioned, with absolutely no education and no qualification of any kind, enter the practice of medicine, it lowers the standing of the entire profession, and we ought to make every effort possible to rid the profession and the community in which they operate of such moral lepers. I think something ought to be done in this regard.

The President then declared the meeting adjourned until 9:30 Friday morning.

SECOND SESSION, FRIDAY MORNING, OCTOBER 7, 1910

Pursuant to adjournment, the House of Delegates was called to order by the President at 9:30 A. M.

The minutes of the previous session were read and approved with the understanding that the minutes of the last 1909 session, the reading of which had been dispensed with at the previous session, be accepted and adopted as printed in the journal of the Association.

ELECTION OF OFFICERS

The President: The next business in hand is the election of the President.

Dr. A. E. Spalding: I wish to place in nomination a man who does not require a speech to tell of his various qualifications, a man whom we all know, and who has been an active member of this Association for a great many years,—Dr. J. W. Robertson, of Litchfield.

Dr. H. E. Conley: I wish to place in nomination Dr. F. W. Dimmitt, of Red Wing, the present vice-president of this Association. He is a good, straight man, and an able man.

Dr. Christian Johnson: I rise to second the nomination of Dr. J. W. Robertson, of Litchfield. I need not say anything, except that he is a good neighbor, doctor, scholar, and friend.

Dr. A. J. Cox: I second the nomination of Dr. Dimmitt.

Dr. W. L. Beebe: I do not know that it is necessary to have more than one second to a nomination, but I would like to second the nomination of Dr. Robertson. It is not necessary to go into any lengthy detail as to what he has done in this Association, but he probably is the most competent man and most worthy man in the society.

The President appointed Drs. Workman and Hill as tellers, and the House proceeded to ballot for president, resulting in a majority vote for Dr. Robertson, who was declared duly elected to serve for the ensuing year.

The President: Prepare your ballots for first vice-president, or nominations will be received if you prefer. It is essential to remember that no officer may be nominated unless he is present at the meeting.

The Secretary: Also that no member of the House of Delegates can be nominated.

The President: That is understood.

Dr. Christian Johnson then presented the name of Dr. C. L. Scofield for first vice-president.

Dr. J. W. Robertson: It seems to me that Dr. Dimmitt ought not to be cast off entirely, and that it would be proper at this time that he be elected first vice-president. It will be my pleasure to nominate him.

Dr. Johnson withdrew his nomination of Dr. Scofield. Dr. W. L. Beebe seconded the nomination of Dr. Dimmitt, and upon motion of Dr. Spalding, the Secretary cast the ballot of the House for Dr. Dimmitt, and he was declared duly elected.

Dr. Johnson presented the name of Dr. C. L. Scofield, of Benson, for second vice-president,

and on motion of Dr. Spalding the Secretary was instructed to cast the ballot of the House for Dr. Scofield as second vice-president.

The President: The next office to fill is that of Secretary.

On motion of Dr. Workman, the rules were suspended and the President cast the ballot of the House for Dr. Thos. McDavitt, of St. Paul, for secretary.

The Secretary: Thank you, gentlemen.

We will now listen to nominations for treasurer.

If there are no objections, the rules will be suspended and the Secretary will cast the ballot of the House for Dr. R. J. Hill, of Minneapolis, for treasurer. It is so ordered.

The next office to be filled is that of councilor for the First District, to succeed Dr. Hensel.

Dr. W. J. Awty: I have much pleasure in nominating a gentleman of District No. 1 who is well known by the medical profession all over the state, and I think will be an acquisition to the councilors. I present the name of Dr. C. E. Dampier, of Crookston.

The Secretary: This is for two years. Dr. E. H. Hensel was re-elected last year for three years, so that this election will be for filling out his term for two years.

The nomination of Dr. Dampier was seconded by Dr. Christian Johnson, and on his motion the rules were suspended and the Secretary was instructed to cast the ballot of the House for Dr. Dampier.

Dr. J. G. Millsbaugh, of Little Falls, Councilor from the Second District; Dr. J. L. Rothrock, of St. Paul, Councilor from the Third District; and Dr. H. M. Workman, of Tracy, Councilor from the Fifth District, were elected to succeed themselves.

On motion of Dr. Workman, Dr. George Douglas Head, of Minneapolis, was chosen as delegate to the American Medical Association for two years.

On motion of Dr. Bell, Dr. Max P. Vander Horck, of Minneapolis, was chosen as alternate for two years.

INSURANCE EXAMINATIONS

The Secretary: Mr. President, in looking up this matter that we were discussing in the House at our last meeting in reference to insurance examinations, I find that action was taken at the Minneapolis meeting in 1906, and the discussion at that time started upon resolutions introduced

by Dr. Andrews, which resolutions read as follows:

That we hereby pledge ourselves to adhere strictly to the following schedule of fees for life insurance examinations:

\$5.00 for each and every ordinary examination, including chemical analysis of the urine.

\$10.00 for each and every examination where a microscopical examination of urine, sputum, or other secretion is required.

\$3.00 for each certificate of health for renewal of a lapsed policy.

Nothing under the sun but a pledge. The question the other day was whether it was not an order to the House of Delegates. You will find this in the August 1, 1906, issue of the Journal in the proceedings for that year; the full debate and resolutions as introduced at that time.

The President: There are some resolutions which perhaps would better be introduced at this time.

The following resolution was introduced:

WHEREAS, Federal legislation in the interest of public health urgently demanded by the great majority of intelligent physicians and scientific men of the country and believed by them to be innocent of any possibility of being used to interfere with the prerogatives of either states or individual citizens as regards the fullest freedom to practice any system of healing or to employ any kind of healer, has in the last session of the United States Congress been defeated; and,

WHEREAS, one of the chief agencies of that defeat was the activity of the National League for Medical Freedom, made up of various sectarian practitioners, Christian Scientists, and many other kinds of more or less quackish and disreputable persons, together with a number of intelligent and patriotic citizens, who, alarmed at the possibility of such another despotic and irresponsible department of the government as the Federal Post Office Department, have joined hands with the baser sort of protesters; and,

WHEREAS, notwithstanding the righteousness of notice and splendid accomplishment of the American Medical Association in its work for the scientific medical profession and the American public, occasion has arisen for the charge on the part of the best and most loyal friends of the Association that certain high officials have discredited the Association by despotic and irresponsible methods and acts, and the National League for Medical Freedom has charged the Association with being a medical trust;

THEREFORE, BE IT RESOLVED by the members of the Minnesota State Medical Society that we demand such changes in the organization and methods of the American Medical Association as shall silence criticism and command the confidence of the public as well as of the medical profession.

On motion of Dr. Workman, seconded by Dr. Knights, the resolution was laid on the table.

The President: This resolution will have to be published. It must go on record.

Dr. G. W. McIntyre: It seems to me that all resolutions as long as that ought to be printed so that the delegates can look them over carefully.

The President: The resolution is laid on the table.

REQUIREMENTS FOR RECIPROCITY

Dr. Christian Johnson: I was practically instructed and requested to bring in a resolution at our last session on the matter of reciprocity. I have the resolution here.

WHEREAS, This Association is now on record in favor of interstate medical reciprocity; and,

WHEREAS, The first requisite for fair and reasonable inter-state reciprocity is a permanent average standard of educational requirement for licensure; and,

WHEREAS, information is now at hand making it reasonably certain that the permanent standard of educational requirement for medical licensure in the great majority of the states of the Union will not exceed the following:

"1st: A full four-year high-school course.

"2d: Two years of college work in science.

"3rd: A four-year medical course, the last two years of which shall be taken in a medical college with proper clinical facilities."

THEREFORE, BE IT RESOLVED, That this Association demand that the educational requirement for medical licensure in this state, either by examination or through reciprocity, be permanently fixed on the above basis for all who graduate after 1912.

BE IT ALSO RESOLVED, That the president of this Association appoint a special committee of three, selected from this House of Delegates, to lay this resolution before the legislature and have it enacted into law.

Mr. President: Perhaps you will allow me a few minutes to explain a few points. There may be somebody here that wants to amend that resolution in some respects, and that will be all right.

The President: Were you requested last year to prepare this resolution?

Dr. Johnson: At the last session, day before yesterday. There is a desire, of course, which has been expressed in various ways amongst the profession generally, that we should have some kind of reasonable reciprocity between the states among physicians. I won't refer to that any more than to say that this Association is already on record that it wants reasonable reciprocity, and yet we do not want to let into this state unqualified men as an injustice to our own students here. This matter was up a year ago for discussion. As a matter of fact, we didn't have the information on which to base an opinion. In the meantime, the American Medical Association has investigated this matter and cleared up a

whole lot of mooted questions, and shown that there are even now in the United States a large class of commercial colleges that are a fraud and a reproach to the medical profession of this country. We had supposed up here in Minnesota that there were no such colleges any more—that that was a thing of the past; but there are any number of these colleges—in St. Louis, Chicago and even in Philadelphia and New York, as well as other small cities, that have not the facilities to give a man the proper medical protection. Their preliminary education is practically nothing at all except the common-school education; sometimes not even that. They have no properly equipped laboratories, and lots of them have no clinical facilities. The idea is that our board of examiners shall exclude the graduates of these schools from this state. The idea is, we want a fair and reasonable reciprocity. I have put the provisions in this resolution on the basis of that Carnegie report. I have put four years' high-school work and two years of science in a college. As a matter of fact, there are only three states in the Union that have a well-equipped high-school system, and those are New York, Michigan and Minnesota. Minnesota is the best of all of them. As a matter of fact, the high schools in the rest of the states do not mean anything in particular. In the state of Minnesota it means a regular system, inspected high-school system, so that the best of our schools are equivalent to those of Germany. Take our full Latin scientific course, which we are enforcing in our small cities. It is fully equivalent to the course in those old countries.

Now, the trouble is with this that the other states have what they call high schools, or a school equivalent to it. It is only about two years in the high schools, so that when we come to examine the people—while South Dakota and North Dakota are requiring two years in college, they really and practically keep their students in this college course the last years of our high school course—yet there seems to be no way to get around this. Our students here are not getting credit for their studies in higher algebra, solid geometry, chemistry and physics. They are taking the same things at the University. So, consequently, we have to get down and set some kind of standard that we believe will be an average and will be permanent, will be such a thing as the other states will finally come up to. Therefore, I have put as the standard a full four-year high-school course, two years of college, and four years of medicine in a medical

college that has proper clinical facilities. I believe this thing should be settled now permanently. I believe it should not be left with the State Board of Medical Examiners, because you can never tell what they are going to do. They are all good men, but at the same time it is a matter that might just as well be settled permanently. We know now what is required for an up-to-date medical course; consequently, I think we ought to settle that now, and I think that the delegates here can settle it.

The President: This resolution will be referred to a committee appointed by the incoming president. I presume you intend that they shall take whatever steps are necessary? You do not mean that this shall go in literally? It may be altered to suit the committee and the House of Delegates next year? It cannot be done right away.

Dr. Johnson: I understand. Why can't the House of Delegates act on it now? I move its adoption.

Dr. Cox: I second the motion.

Dr. Knights: This resolution is a good thing I have not the least objection to its adoption. It may interest the Association to know that the Board at present has exactly this thing under way, and resolutions were adopted more than two years ago fixing 1911 or 1912 as a time when the requirements should be what Dr. Johnson states,—four years in a high school, two years academic, and four years of medicine,—and without question at that time the reciprocity requirements will be raised to the same; that is, for graduates after that time it will be raised to the same limit.

The only question about the adoption of this resolution is whether we would better, since this matter is on that basis already, take permanent action and action leading to a permanent arrangement of this thing now, or whether we would better hold back a little for the American Medical Association, which has now action under way for the establishment of a uniform medical practice act to be adopted in as many states as possible. It might possibly be better to adopt a uniform act than to adopt an independent act adopted by the legislature in accordance with this resolution. It would be possibly easier to adjust matters if we are able to adopt a uniform act without any such complication as this might possibly produce.

Dr. Bell: I think we have with us the state representative of the American Medical Association, Dr. Beebe. I would like to know just

what the A. M. A. is doing and has been doing for the past five years in this direction. They have had the matter under consideration for at least five years, and if our state representative can give us any light, I would be glad to have it.

Dr. Beebe: I think if you had paid attention to the remarks of the last gentleman, you would see that he covered the entire ground that I am now asked to speak upon. The national committee is trying to get a uniform legislation, and they do not think it is advisable for any one state to pop up and pass a lot of resolutions and a lot of specific requirements for their individual state, but they are trying to get one that will be comprehensive. They couldn't do it last year, and they can't do it this year. The gentleman has explained. If you will just have a little patience, we are going to get some legislation that will amount to something.

Upon being put to vote, the motion to refer the resolution to a committee, to be appointed by the president, prevailed.

THE OWEN BILL

The President: Are there any other resolutions to be introduced at this time?

Dr. Beebe: I have a resolution, which I will read:

WHEREAS, A wave of conservation is sweeping over the land for all resources, and it is gradually dawning upon the American people that human life and health is its greatest asset, without which all others are almost valueless and unnecessary; and,

WHEREAS, Several bills have been introduced in the United States Congress having for their purpose the establishment of a National Department of Health; therefore,

BE IT RESOLVED, That the Minnesota State Medical Association, at Minneapolis, October 6 and 7, 1910, endorses the principles of the Owen Bill, and instructs the Secretary to forward copies of these resolutions to the President of the United States, Senator Owen, and the Senators and Representatives of Minnesota to the next Congress.

The President: This resolution before you has been adopted by members of the county societies in the state.

On motion of Dr. Leo M. Crafts, the resolution as read was adopted.

FOOD PRESERVATIVES

Dr. Beebe: I have another resolution:

WHEREAS, Recognizing the principle that drugs are never foods, and that when used in the preservation of prepared foods the chemicals commonly employed for this purpose are not only deleterious in themselves, but that they permit and encourage the use of raw material that has reached a state of decomposition making it unfit for human consumption; therefore,

BE IT RESOLVED, That the Minnesota State Medical Association, assembled at Minneapolis, October 6 and 7, 1910, unhesitatingly condemns the toleration as a food preservative by the National Government of benzoate of soda and all other like substances as being in themselves a menace to the public health and as encouragement to fraud in commercial food preparation; and be it further

RESOLVED, That we commend and endorse the attitude of the American Medical Association in support of Dr. Harvey W. Wiley in attempting to conserve the public health by ensuring a supply of clean, wholesome food.

On motion of Dr. Workman, the resolution as read was adopted.

MEDICAL EDUCATION

Dr. Beebe: I have one more resolution:

WHEREAS, the Alumni Association of the College of Medicine and Surgery of the University of Minnesota has inaugurated a campaign of education throughout the state in the interest of general medical education, and public health, and to secure adequate appropriation for the medical department; therefore,

BE IT RESOLVED, That this movement on the part of the Alumni Association is ratified and heartily endorsed by the State Medical Association.

I move the adoption of this resolution.

Dr. Workman: I second the motion.

The President: This is the beginning of a wide-spread movement and should be as heartily received as offered. It means a good deal to public health and to all institutions that are interested in public health matters. It is an educational campaign. Are you ready to discuss this resolution, or will you vote upon it?

The motion to adopt the resolution as read, on being put to vote, prevailed unanimously.

The President: This means that from this Alumni Association there will be a committee or a representative who will join with the legislative committee of the Minnesota State Medical Association, State Board of Health, and the State Sanitary Conference. It also means that it will bring all of these societies and various other departments of health into one common line of work.

USE OF ALCOHOL

Dr. G. D. Haggard presented a resolution similar to that adopted by West Virginia and other state associations, relative to the mis-quotation from which the medical fraternity suffers in regard to the uses and abuses of alcohol in and out of the profession.

A vote being taken upon the adoption of the resolution, it was declared lost.

OFFICIAL JOURNAL.

The Secretary: The contract for the publishing of the proceedings expires on the 1st of January, and it becomes necessary for this House of Delegates to take this matter under consideration.

The President: The contract with the Lancet Publishing Co. expires on the 1st of January. What is your pleasure?

Dr. Beebe: I would like to ask for information, if there has been any effort made towards a renewal, or substitution, or if anybody wants to have another contract.

The President: Are there any other contracts for the publishing of the proceedings?

Dr. Rothrock: I would like to ask how this has been let—whether just by agreement or whether bids have been offered.

The President: Bids have been offered before.

Dr. Rothrock: Then I think there is another bid. The St. Paul Medical Journal is prepared to enter a bid.

The President: Is the bid here?

Dr. Rothrock: Yes, sir.

Dr. J. M. Armstrong, of St. Paul, then read the following bid:

The St. Paul Medical Journal hereby offers to become the official organ of the Minnesota State Medical Association on the following terms:

The St. Paul Medical Journal will print the transactions and publish all the papers read before the State Medical Association and mail a copy of the Journal to each member of the Association. The Association shall pay to the Journal seventy-five cents (.75) per member per annum and shall assume no other financial obligation.

The Association may dictate both the advertising and editorial management of the Journal and may elect its editors provided that one of the editors shall at all times be a member of the Ramsey County Medical Society. The name of the Journal shall be The Journal of the Minnesota State Medical Association and St. Paul Medical Journal.

St. Paul Medical Journal,
J. M. Armstrong,
Business Manager.

Oct. 6, 1910.

Dr. Cox: I have got so used to seeing the Lancet that I expect every issue, and I think I would feel at a loss without it, and if it is in order, I move that the contract be made with the Lancet for a period of five years.

The motion offered by Dr. Cox was numerously seconded.

The Secretary: I would like to inquire if there is a bid in from the Lancet. The only bid before us is that of the St. Paul Medical Jour-

nal. We have heard of no bid from the Lancet for five years. We can hardly act upon this matter intelligently until we have something to act upon. We have a plain, straight bid from the St. Paul Medical Journal; we have no bid at all from the Lancet. Let us play fair.

The President: I will say for The Lancet Company that the same bid as before will be offered; no reduction; we cannot afford to do any better.

Dr. Beebe: What is that bid? How much are we paying a copy now?

The President: One dollar per copy per year for two issues a month. The St. Paul Medical Journal is a monthly publication. In the name of The Lancet Publishing Co. I offer the same bid that we had in our previous contract.

Dr. Workman: How does the title in this present bid from St. Paul read?

The Secretary: Reads, "the name of the Journal shall be 'The Journal of the Minnesota State Medical Association and St. Paul Medical Journal.'"

Dr. Reiter: I think that we ought to know what advertisements are going into the Journal. There ought to be a limit to that. I think that ought to go with the offer.

The President: The advertisements in the State Medical Journal as now printed are under the supervision of the Publication Committee, and if there is objection to any advertisement, it is removed. We do not hesitate at all. We expunged about three thousand dollars' worth of advertising when we first took on the contract.

Dr. Rothrock: I believe the contract calls for the advertisements to be such as are sanctioned by the A. M. A.

The President: That is true.

Dr. Workman: I move that whatever contract is made that there be no title on the page of that journal excepting "Minnesota State Medical Association Journal."

The President: I would like to say in explanation of this, that the Lancet has been owned for many years by an individual corporation, and it has been known as the "Northwestern Lancet" for a long time, and it is quoted now in the other journals more often as the "Northwestern Lancet" than as the "Journal of the Minnesota State Medical Association" because the name is too long, and the publishing company had hopes that the Lancet would be a Lancet of the Northwest and embrace the three states of Minnesota and North and South Da-

kota. We took on South Dakota at one time, but it didn't pay. It simply extended your acquaintance and their acquaintance, but there was nothing in it. You cannot publish a medical journal for a dollar a year at any profit. It has been a difficult matter to keep this journal going financially. You must keep in mind that, whatever your contracts are, it is not an easy matter to publish and maintain a medical journal unless you have a large number of subscribers and a large advertising list. If you will look over the advertising pages of The Journal-Lancet you will find most of it is confined to outside matters, to sanitarium and harmless and innocent so-called remedies, and it has but few that are obnoxious or objectionable. If there are any that are objectionable we shall be glad to remove them.

I do not like to say definitely that the Northwestern Lancet name should be dropped. I would like to do it, but it is not all mine, and it does not all belong to the doctors, and for that reason it puts me in a rather embarrassing position. If you will permit me, providing you renew the contract, to drop this name from the title page, and to put it in such other page as we may decide fit, on the editorial page, so as to preserve for a time the title "Northwestern Lancet," I would be glad to enter into negotiations with you, but this contract business is a very unstable thing, and we do not know whether you will have us for a year or five years and then drop us, and the Northwestern Lancet in the meantime will have lost its identity. But if you will permit us to do this, I will say that we will do what you request in your resolution,—call it the Journal of the Minnesota State Medical Association. As to the bid, we have no desire to reduce the bid, because we cannot afford it.

Dr. Nippert: I would rather favor making contracts with the Northwestern Lancet again on the ground of news items. The publication comes out twice a month and to me a great deal of interest in the paper is in getting the news of medical interest throughout the state fairly fresh. If we have to wait an entire month, it may lose considerable interest. However, I would favor dropping the name "Northwestern Lancet" from the title page and making it "Journal of the Minnesota State Medical Association."

Dr. Richardson: It seems to me we ought to own a paper or the majority of stock in a paper; then we wouldn't have this bid proposi-

tion coming before us this year. Why don't you sell us fifty-one or fifty-five per cent of this Northwestern Lancet and we will do business with you?

The President: All right. We will do business with you and you will lose money.

Dr. Workman: As president of the Council, I think this thing ought to be settled right away.

The Secretary: I think that the House of Delegates should assume the responsibility of this matter. It is hardly fair to throw off all of this responsibility upon the Council. You know what you have had and you know that your contract, if you make it, will be carried out exactly as it is. You also may know that whatever contract you should make with the St. Paul Medical Journal it will be carried out to the dot. You will make no mistake either way. But there is a question of dignity in reference to the title of this journal from this time on. If we are going to have a journal, we want it understood absolutely that it is a journal of the Minnesota State Medical Association, and we want it so stated upon that journal's face. We should have it distinctly stated and distinctly understood that this is the journal of our Association. Furthermore, this contract to be of any use whatever should be for at least a period of five years. As far as the detail of it is concerned, if you gentlemen will just make your contract with your journal, state what contract you desire to be made and what journal it is, and leave the details of it, with the understanding that the divided name shall be dropped wherever it goes, and that the contract made shall be on the same lines and identical as far as possible with the old contract, excepting where the Councilors consider that they can better it, I think you will get a contract and a journal that you will be proud of.

Dr. Beebe: It occurs to me that in a nutshell this question is simply whether we desire to change to St. Paul, with the name of St. Paul on our journal, and, as the gentleman says, save four hundred dollars to the Association by a monthly publication, or whether we prefer the present semimonthly—whether we can afford this four hundred dollars to do it, and eliminate the word of any city in connection with this publication—

The Secretary: Or any other journal.

Dr. Beebe: Or any other journal; that is all there is to it from my point of view.

Dr. Armstrong: In entering into this agree-

ment, my agreement is, if the Association accepts the bid, that the journal shall be called the "Journal of the Minnesota Medical Association and the St. Paul Medical Journal." If the Association does not want the name "St. Paul Medical Journal" on this publication, the St. Paul Medical Journal prefers to withdraw its bid.

Dr. Jolinson: This is quite a serious matter in a financial way for an Association of this kind to publish a medical journal. It seems to me that it is a good deal better and a great deal less risk in making a contract of that kind. I do not see how we can get those names erased without we would actually buy the whole thing; finance the whole institution. We would hardly want to do that. We are now paying one dollar a copy for this paper. We know just exactly what that is. We know it is not going to be any more. I can sympathize with the President's view of this so far as the name is concerned. There is a whole lot in that. Anyone who has been engaged in the publication of papers or journals understands this question better than a man that never has. I do not see how we can expect them to eliminate that word "Lancet" without buying the company outright and financing the thing, which we would hardly want to do under the circumstances. I think the Lancet has furnished us good value for the money we have paid for it. I have had the Lancet since '82 when it started. I think I have the first copy now at home. Of course, I would have the Lancet anyhow. The question is whether we should absolutely buy the plant, control it, and then put our name at the head of it, or else make some kind of a contract and allow the tail of the Lancet to finish up the title.

Dr. Rothrock: As I understand it now, the Lancet has published the proceedings for five years. At the time the contract was first made it seemed to me then it would have been proper that the name Lancet should have been incorporated as part of the title, because it was an asset of considerable value, but now the abstracts which are made from the paper as they appear in the Journal of the American Medical Association are always from the Lancet. The other part of the title does not appear. We get no credit for having an official organ at all the way it is. It seems to me that now since the Lancet has profited by carrying this name for five years it could well afford to abandon it without much loss at this time. The contract

is about to be renewed for five years, and it seems to me at the end of that time it will be so firmly established as the organ of the State Association that the loss of the title "Lancet" will be of very minor importance. Personally, I feel very kindly toward the Lancet and toward its editor and towards its past editors, and I think the Lancet has done very well by us, and I am personally glad to see them have another contract, but it seems to me that they might at this time with safety, without endangering their financial prospects, abandon the name Lancet.

Dr. Armstrong: I just want to state why the St. Paul Medical Journal prefers to withdraw its bid if the name must be eliminated. The St. Paul Medical Journal is owned and published by the Ramsey County Medical Society, and they take some pride in it. As near as I know, the Northwestern Lancet is owned by one or two private individuals, and why they cannot give up the name Northwestern Lancet I do not know. The St. Paul Medical Journal cannot afford to give up their name, because it is published by our Medical Society and I am not at liberty to put in any bid where that name is to be dropped.

The President: The inner working of a medical journal is quite a complicated bit of machinery.

Dr. Cox: I will accept all these amendments, and that the title page shall read the "Minnesota State Association Medical Journal."

The President: I will accept that as a part of the contract provided you will permit me on the editorial page to put under the title of the Journal, "Formerly the Northwestern Lancet." That I must have as a means of identity; otherwise, I am entering into this simply on my own initiative. I take the consequences, even if I am deposed as its editor. I would like to state for Dr. Armstrong's benefit that this Lancet is owned by eight doctors and one publisher. The publisher, of course, owns the majority of the Lancet; it is his livelihood.

Dr. Cox: It was mentioned some time ago that we leave the details to the Councilors. I would make that suggestion, along with the motion, that all of the details of the contract should follow.

On being put to vote the motion that the contract with the Lancet Publishing Co. be renewed for five years on the same terms as before with the exception of the title page, which shall be changed to read "The Journal

of the Minnesota State Medical Association," prevailed.

LEGISLATIVE COMMITTEE

The President: Do you recall your motion, Dr. Beebe, with reference to the establishment of the Legislative Committee? That went through the other day, and, as I remember, it included the legislative committee of the Minnesota State Medical Association, the secretary and president of the State Board of Health, and three members of the State Sanitary Conference.

Dr. Beebe: I did not include three members of the Sanitary Conference.

The President: President and secretary of the Sanitary Conference. As you have adopted the resolution from the alumni of Minnesota, do you want to amend that so as to include a representative?

Dr. Beebe: I would be very pleased to amend that resolution by including the representative of the Alumni Association of the University.

The President: And you offer that in the form of a resolution to be added to your previous resolution?

Dr. Beebe: Correct.

On being put to vote, the amendment was unanimously adopted.

ADVERTISEMENT IN JOURNAL

The President: Have you any new business to bring up?

Dr. John Williams: I have a letter from the Secretary of my society that I would like to read.

[Although twice asked for by letter this resolution has not reached us, and its exact words cannot be given. It referred to certain advertisements in our columns.—THE EDITOR.]

Dr. Knights: I will say in regard to this that a similar resolution was brought to my attention the other day by Dr. Rothrock as coming to the Publication Committee, and I suggested to the doctor that we simply refer that to the Journal of the American Medical Association. Our contract with the Lancet is that no advertising matter shall appear which is not accepted or would not be accepted by the Journal

of the American Medical Association. I suggested to Dr. Rothrock that we refer that matter to the Journal and if the Journal disapproves of those preparations, and I judge that it does, we would request the Lancet to drop it. In conference with the president of the Lancet Company I find there would be no objection and personally I am sure that there will not be, because there were one or two suggestions that I have personally made to the Lancet along those lines that have been acted on very promptly; that is to say, as soon as the then existing contract with those people expired.

The President: That will be taken care of and the Journal of the Minnesota State Medical Association will confer with the Journal of the American Medical Association and do what is right. I wish you would look into the Journal of the American Medical Association advertisements a little more carefully and if we are transgressing any more than they, I would like to know it. If we have an advertisement that is harmless and is not going to kill anybody and we know something of its composition, I will take it upon myself to retain that advertisement until I am shown that it is detrimental, and if I am to live up to the standard of the Journal of the American Medical Association, I want your backing. If I can publish some of the stuff that they publish, it will be worse than things we have got in there now. However, that is a matter of detail which we will take up later.

PLACE OF NEXT MEETING

The Secretary: It is necessary to have a place for our next meeting and a time for our next meeting, or, at least, leave it with the council to fix a time.

On motion of Dr. Beebe, the place of meeting of the next session was fixed at St. Paul, during the first week in October.

On motion of Dr. Knights, seconded by Dr. Bell, it was decided to pay the legitimate expenses of the delegate to the meetings of the legislative committee of the American Medical Association.

There being no further business to come before the Delegates, the House was declared adjourned.

THE JOURNAL OF THE MINNESOTA STATE MEDICAL

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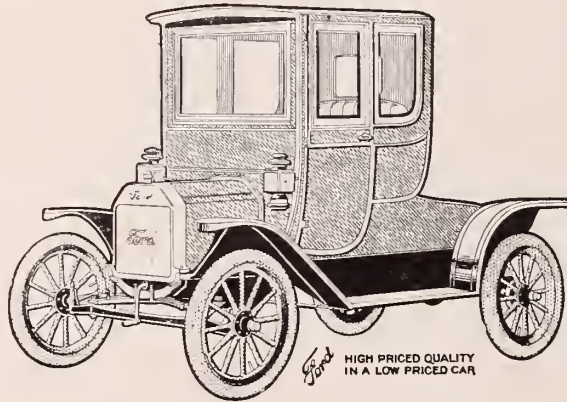
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DR. A. E. HEDBACK
1006 DONALDSON BLDG.
MINNEAPOLIS

OFFICE PHONE
TRI-STATE 2274

Oct. 26, 1910

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Minneapolis, Minn.

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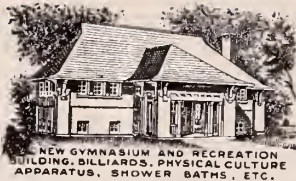
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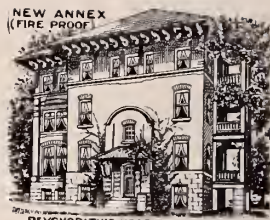


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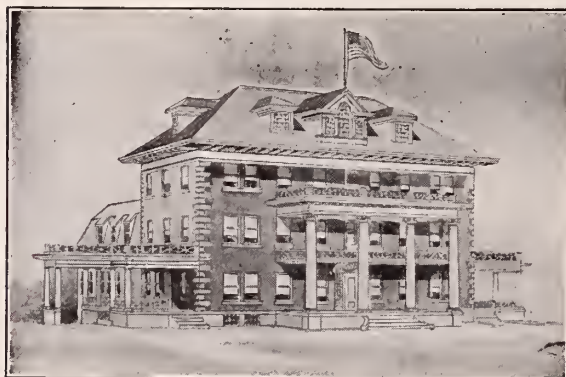
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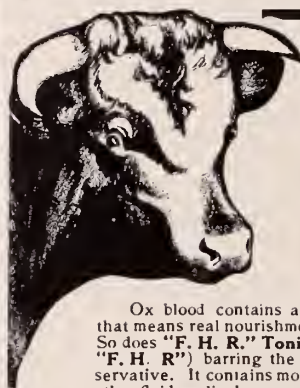
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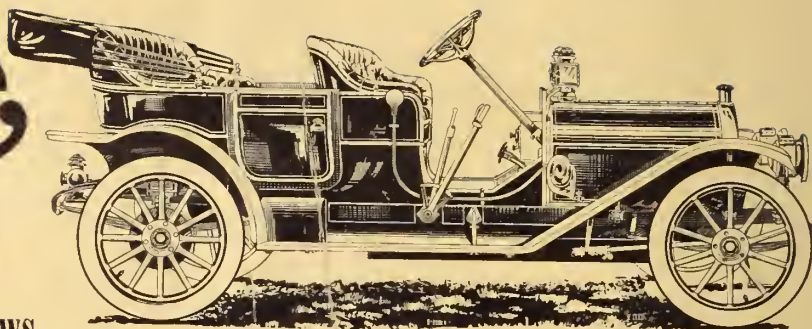
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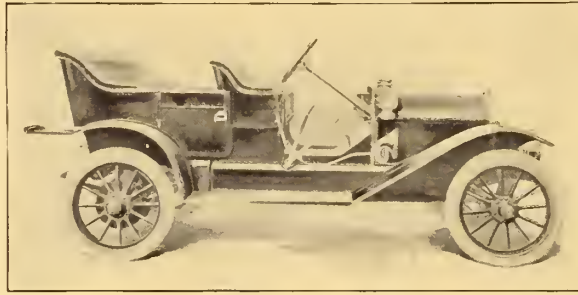
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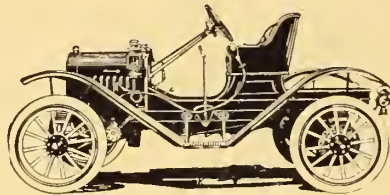
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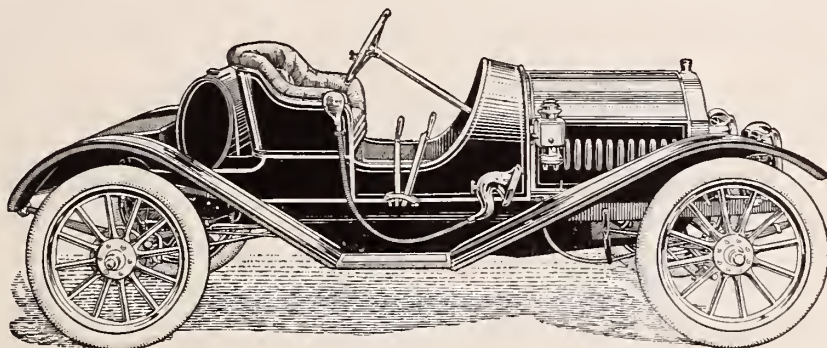
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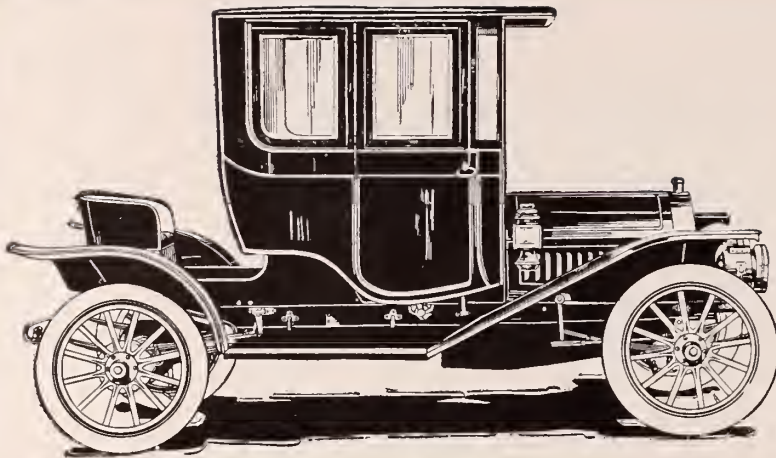
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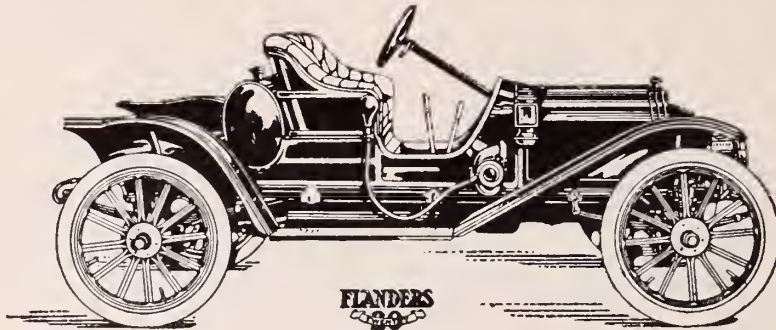


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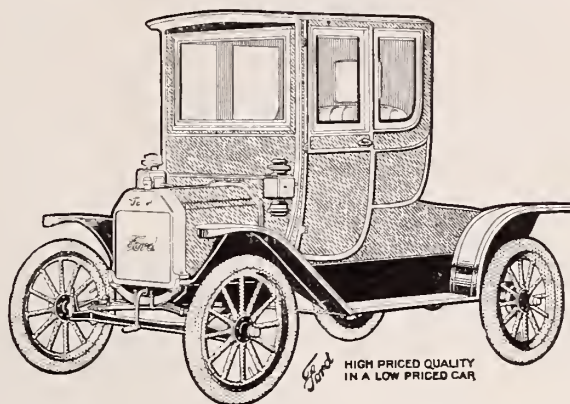
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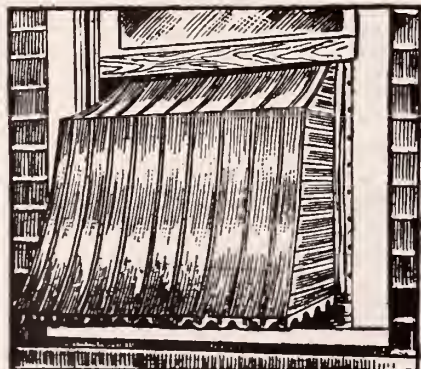
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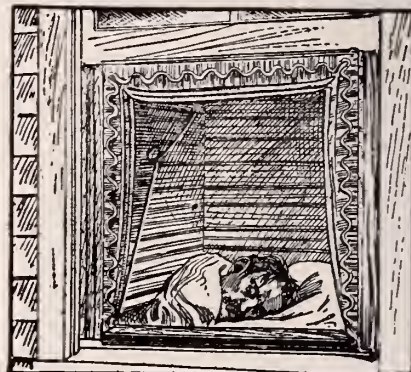
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METASTATIC GONORRHEAL CONJUNCTIVITIS, REPORT OF A CASE*

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MINNEAPOLIS

Both in its clinical aspects and in the source of its infection, we recognize, at the present time, two distinct forms of gonorrheal conjunctivitis: (1) contagious gonorrheal conjunctivitis, in which the infection is carried to the eye by external means, resulting in direct inoculation with the gonococcus; (2) metastatic gonorrheal conjunctivitis of endogenous origin, in which the gonococcus or its toxin is carried to the conjunctiva by internal means, and occurs in a patient the subject of systemic gonorrhea.

The first form, acute contagious gonorrheal ophthalmia, whether occurring in adults or infants, presents such a well-known clinical picture and the diagnosis is so readily made by means of the microscope that it requires no mention here.

The second, or metastatic, form of ocular gonorrhea has been recognized for many years; in fact, previous to the year 1700 all cases of gonorrheal ophthalmia were believed to be of metastatic origin and this belief was held until Piringer, in 1841, showed that gonorrheal ophthalmia was due to direct infection of the eye with gonorrheal pus. This latter view was held until a somewhat later time, when Fournier, in 1866, described a case of metastatic gonorrheal conjunctivitis. Haab, in 1881, was the first ophthalmologist to describe such a form of conjunctivitis, and he based his diagnosis, as to the metastatic origin of the conjunctivitis, on the ab-

sence of gonococci in the conjunctival discharge. Von Moll, at the Ninth International Congress of Ophthalmology, in 1899, reported six cases, and Kurka, in 1902, reported two cases that had come under his own observation in the clinic of Fuchs in Vienna, and he collected twenty other cases from the literature. Since that time a number of other cases have been reported, but a review of the literature would indicate that metastatic gonorrheal conjunctivitis, without involvement of any of the intra-ocular structures, is an ocular condition sufficiently rare and interesting to merit the report of an additional case.

In the great majority of the cases reported a bacteriological examination of the conjunctival secretion has failed to show the presence of gonococci, and a diagnosis of its metastatic origin has usually been made on a negative finding as a result of microscopical examination together with the clinical signs which are quite characteristic of this form of conjunctivitis. A number of investigators, however, have demonstrated the presence of gonococci, in small numbers, in cases that were undoubtedly metastatic.

According to Carroll, who reported two cases and reviewed the literature in a paper presented before the Ophthalmological Section of the American Medical Association, in 1907, three theories have been advanced to explain the source of infection in metastatic cases of gonorrheal conjunctivitis:

The first theory is that the inflammation is due to the actual presence of gonococci in the

*Read at the 42d annual meeting of the Minnesota State Medical Association, held at Minneapolis, Oct. 5 and 6, 1910.

conjunctival sac, and that these organisms are carried there by the blood-stream. This theory is advanced by a few observers who have demonstrated the presence of the organisms in the conjunctival discharge, notably Lipski, Morax, Perinaud, and von Moll, and, more recently, by McKee of Montreal, who obtained a pure culture of the gonococcus, after repeated negative attempts, and who believes that careful and repeated examinations will demonstrate their presence in all cases. While this theory is contrary to the experience of the majority of observers, who have failed to find the specific organisms in the conjunctival discharge, it is, nevertheless, a theory which is gaining in favor, and recent investigations seem to show that the gonococcus itself is the responsible factor in the conjunctival involvement, as well as in all other forms of gonorrheal metastases. McKee (*Ophthalmology*, July, 1909), after repeated negative attempts, succeeded in obtaining a pure culture of the gonococcus from the conjunctival discharge in a case of metastatic gonorrheal conjunctivitis, and he believes that these organisms are present in all cases. At the Ninth International Ophthalmological Congress, Axenfeld, in discussing this subject, advanced the theory that possibly the gonococci might remain embedded in the conjunctival tissue and thence produce the conjunctival inflammation. Kurka, later, examined pieces of the conjunctival tissue, taken from the bulbar conjunctiva in a case of metastatic gonorrheal conjunctivitis, with negative results so far as demonstrating the actual presence of the gonococci.

The second theory is that the conjunctivitis is the result of a mixed infection and the gonococcus prepares the soil for other pyogenic micro-organisms which, in turn, excite the inflammation. This theory is open to the objection that, in some of the cases of metastatic gonorrheal conjunctivitis, bacteriological examination has failed to show the presence of any pyogenic organisms capable of causing the conjunctivitis.

The third theory is that the conjunctivitis is not due to the direct action of the gonococcus, but is due to a toxin generated by that organism and termed the *gonotoxin*. A number of investigators have established the fact that such a toxin may be generated by the gonococcus, but the specific action of the toxin on the tissues is not clearly understood. In this connection the experiments of Morax and Elmassion and of Randolph are of interest. Morax and Elmassion

(IXth Congrès d'Ophthalmologie, Utrecht) instilled the toxins of the gonococcus into the conjunctival sac of rabbits and produced a conjunctivitis. Prolonged contact was necessary. Randolph (*Johns Hopkins Hosp. Bull.*, xiv, 47) instilled the toxins of the gonococcus, obtained by filtration, into the conjunctival sac of rabbits and after prolonged contact could obtain no reaction. He then injected the toxin into the conjunctival tissue and produced a conjunctivitis in all cases. He also injected the toxins into the anterior chamber and caused an iritis.

While the case that forms the basis of this report belongs to that somewhat rare, though, possibly, occasionally undiagnosed, class of ocular gonorrheal metastases, I wish, first, to call to your attention another form of ocular metastases of gonorrhea that is somewhat more frequently observed, and should be of interest to the general practitioner and to the genito-urinary surgeon. I refer to gonorrheal iritis and iridocyclitis. Authorities disagree as to the relative frequency of this form of iritis. De Laperonne stated, in 1905, that he saw only one or two such cases in every 7,000 new eye patients. The late Dr. Burnett of Washington stated that from the large clinic for genito-urinary diseases at the Central Dispensary and Emergency Hospital, where his own eye-clinic is located, there had not been a single case of gonorrheal iritis referred to his service during twenty-five years. I am inclined to believe, however, that this form of iritis is not an infrequent complication of chronic gonorrheal urethritis, and that its etiological factor is sometimes overlooked, it being considered as a rheumatic or some other form of iritis. This form of iritis has a tendency to recur during the course of the urethritis or with subsequent attacks of gonorrheal urethritis. It may be sudden and severe in its onset, or it may be slow and insidious in its development. It may be attended by severe pain and acute inflammatory symptoms, or the patient may complain of but slight discomfort. The point that I desire to emphasize is, that these cases are likely to occur while the patient is under the care of the general practitioner or genito-urinary surgeon, and as the prognosis in cases of iritis often depends on the promptness with which proper therapeutic measures are instituted, it follows that these cases should be very promptly recognized. The delay of a day after the onset of a plastic iritis may mean much as to the ultimate outcome in this serious form of eye-involvement, and any complaint on the part of the

patient as to discomfort in the eye, diminution in vision, or the onset of any inflammatory signs, should demand a thorough examination as to the mobility of the iris and the condition of the intra-ocular structures. While this form of iritis is described in text-books on ophthalmology, it is not sufficiently emphasized in text-books on genito-urinary and venereal diseases.

Metastatic gonorrheal conjunctivitis without involvement of any intra-ocular structures, is a more unusual ocular complication than gonorrheal iritis. Dr. Robert Randolph, of Baltimore, an ophthalmologist of great clinical experience, stated in his discussion of Carroll's paper before the American Medical Association that he had never seen a case of metastatic gonorrheal conjunctivitis, but in several cases in which he thought this condition present it proved to be the forerunner, by a few hours, of an iritis. However, a sufficient number of cases of uncomplicated metastatic gonorrheal conjunctivitis have been reported to establish this form of metastases as a distinct clinical entity.

In discussing the symptoms and objective signs usually present in this form of gonorrheal conjunctivitis, I quote from the exhaustive monograph by Byers on this subject (*Studies from the Royal Victoria Hospital, Montreal, Vol. 2, No. 2*), published in February, 1908, in which he finds, from a study of fifty cases reported in the literature, that metastatic gonorrheal conjunctivitis occurred as an initial symptom of a generalized infection 18 times; that it appeared simultaneously with other manifestations 11 times; and in the remaining 10 cases the conjunctivitis occurred as the sole expression of systemic gonorrhea.

Of the 38 cases in the literature in which the sex is given all were males. Of 43 cases of binocular metastatic conjunctivitis the eyes were simultaneously involved in 21, and were probably affected at the same time in 15; in 7 cases there was an interval varying from 24 hours to 16 days.

Metastatic conjunctivitis is nearly always binocular. Out of 44 cases Byers found that both eyes were involved in 42, and the condition was unilateral in 2. In most of the reported cases both the palpebral and bulbar conjunctiva were involved, but the bulbar conjunctiva was usually more extensively involved than the palpebral, and in 50 per cent of the cases there was an edema of the bulbar conjunctiva present. Swelling of the lids was present in 10 per cent of the cases. Usually the discharge was com-

paratively slight and mucoid in character, and the subjective symptoms were mild, consisting usually of a burning, itching sensation with lachrimation and photophobia. The average duration of 29 of the cases collected by Byers was two weeks.

The following case has recently come under my observation:

Patient, O. G., male, aged 35, was admitted to my service in the Minneapolis City Hospital November 25, 1909, with a double conjunctivitis of three days' duration.

History: Patient, at time of admission to hospital, had a gonorrheal urethritis which he had contracted two months previously. He denied any previous attack of gonorrhea and had never had rheumatism or arthritis prior to the present attack. On November 22d, three days before entrance to the hospital, the right eye became involved with a slight burning itching sensation present, but no pain. There was a slight discharge present since the onset of eye-involvement. November 23, twenty-four hours after the onset of inflammation in the right eye, the left eye became similarly involved, and at the same time the left wrist-joint became painful on motion, began to swell, and became very tender, painful and inflamed.

Examination: On admission to the hospital, November 25th, the right and left eyes were about equally involved. Considerable mucoid discharge was present. The upper and lower lids were moderately swollen, but could be everted without difficulty. The palpebral conjunctiva was somewhat thickened and velvety. The bulbar conjunctiva showed marked chemosis, in some places encroaching on to the edge of the cornea. The cornea and iris were normal. The other intraocular structures were normal, and there was apparently no diminution in vision. The left wrist-joint was swollen and painful. The temperature was 99.5° and the pulse 108. A smear taken from the conjunctival discharge showed no gonococci or other micro-organisms to account for the conjunctivitis.

Course of the disease: There was no change in the condition of the eyes during the first twenty-four hours. November 27, the second day after admission, the left knee became involved and became swollen and painful. The discharge from the eyes was less, and the eye-condition was improving. Temperature 100°. Three days later, on December 1st, the patient complained of considerable pain in the back and back of the neck, with less pain in the wrist- and knee-

joints. December 5th, examination showed bulbar conjunctiva normal, no sign of involvement of the iris or intra-ocular structures; palpebral conjunctiva, hyperemic; no discharge present; no pain in back of neck; some discomfort in the back, but no severe pain; much improvement in the wrist- and knee-joints. The temperature was normal. Two days later, December 7th, the right eye again became involved, with slight discharge, and this was followed on the next day by similar involvement of the left eye. Thin mucous discharge was present; lids not swollen; slight chemosis of the bulbar conjunctiva; no involvement of the intraocular structures. This second attack, which was less severe than the first, lasted five days and then subsided, and the eyes, a few days later, were in a normal condition. The patient was kept in the hospital and under observation until January 1st, when he was discharged.

Bacteriology: On entrance to the hospital a direct smear was taken from the conjunctival discharge, and this was negative. During the following five days 17 examinations were made from direct smears from both the right and left eyes, but no gonococci could be found in any of them, and no other organisms to account for the conjunctivitis. During this same attack four attempts were made to obtain a growth of the organisms by inoculating glycerine-agar and blood-glycerine-agar media. No gonococci could be obtained, and the growths were negative, with the exception of a few isolated colonies of staphylococci. A blood-culture was also attempted with negative results. During the second attack of the conjunctivitis, ten smears were made with negative results, and several attempts were made to grow the organisms on culture-media, but without results. A blood-culture made at this time gave a few diplococci which were Gram-negative and morphologically resembled the gonococcus, but owing to secondary infection these colonies became contaminated with staphylococcus albus, which so overgrew the diplococci that it was impossible to isolate them and obtain a pure culture.

The diagnosis in this form of metastatic conjunctivitis is usually readily made. The bilateral simultaneous involvement of the eyes, the slight amount of discharge, and usually mucoid in character, the slight swelling of the lids, the chemosis of the bulbar conjunctiva, the absence of gonococci in the conjunctival discharge, and

the evidence or history of a systemic gonorrhea will readily establish the diagnosis.

I wish to express my thanks to Dr. Henry Lysne of the pathological department of the City Hospital, to whom I am indebted for the bacteriological examinations.

DISCUSSION

Dr. C. D. Conkey (Duluth): Dr. Murray has rendered a real service to this Association by the able manner in which he has reviewed the literature of this rather obscure subject. The number of unquestionable cases of gonorrheal metastatic conjunctivitis reported to date, is small, and every new case reported throws additional light upon it.

There are three types of gonorrheal metastatic inflammation of the eye: serous iritis, plastic iritis, and acute conjunctivitis. The two forms of iritis are quite rare, and usually succeed or accompany metastatic inflammation of the joints. The conjunctivitis occurs far more less frequently than either of the other forms of the disease. Many oculists pass an entire lifetime without knowingly having seen a single case. The reason for this is simple. Pyrringer has shown us that infective gonorrheal ophthalmia is not always the terribly destructive disease that we frequently see it. He discovered that gonorrheal pus became entirely inert by drying for sixty hours or by dilution with water to the hundredth part. A lesser dilution greatly reduced the virulence of the infection, producing a type of conjunctivitis varying greatly from the fulminant type. Conjunctivitis is quite common in gonorrheal subjects of a milder type and in newborn infants with but a limited purulent discharge. These cases are probably caused by an attenuated gonorrheal infection through dilution. It will be seen thus how difficult it is to differentiate these latter forms of gonorrheal conjunctivitis from the metastatic type. The only reliable test is the demonstration of the entire absence of gonococci from the conjunctival secretions by the microscope. Nor is this an absolute test, as it is a well-known fact that in mixed infections the gonococci may be entirely destroyed by the other bacilli present. Finger and others showed this to be true in undoubted joint infections of gonorrheal origin. The fluids in these joints contained gonococci in some cases, and in others none at all, but other forms of bacilli, the latter having destroyed the former.

The case reported in Dr. Murray's paper must have been of metastatic nature, for microscopic examinations were made repeatedly of the secretions of the eye from the beginning, and all through the attack, without discovery of gonococci; besides, the joint complications showed the presence of general gonococcal infection. The method of infection is probably by the direct entrance of the gonococci into the blood-stream from the urethral tract.

Gohn, Schlagenhauser, and Fenger have demonstrated the presence of gonococci in the joints in gonorrheal rheumatism and in the heart in fatal cases of endocarditis. Authenticated cases of phlebitis, myelitis, neuritis, and iritis are also reported. These regions could be reached only through the general circulation, and as the same blood-supply reaches the conjunctiva as the iris, this seems to be the most probable route of the conjunctival invasion.

Although the paper does not deal with treatment, I wish to mention the antitoxin treatment that has been advocated recently by some writers for metastatic gonorrheal iritis. This treatment consists of several doses, usually four, of from two million to fifty million gonococci administered four or five days apart. It is regarded as a valuable aid in the diagnosis of obscure affections due to the gonococcus. It causes a typical gonococcus reaction, such as a rise in temperature and a malaise lasting for twenty-four hours or longer. Its value as a remedial measure is not so well established. Dr. John E. Weeks, in a valuable article on "Vaccine and Serum-therapy" read before the last meeting of the American Medical Association, reports a case of gonorrheal iritis that improved rapidly under this treatment; also two cases by Dr. Oliver and three cases of gonorrheal conjunctivitis by Dr. McKee, all of which ran a mild course under the same treatment.

I have under my care at the present time a case of gonorrheal iritis with an arthritis of the right knee in which I administered three injections, two of twenty-five and one of fifty million gonococci. The larger dose was followed by a decided reaction, the malaise lasting for several days. The joint affection was decidedly bettered, but no effect at all was produced upon the inflamed eye.

Dr. C. McI. Morton (Minneapolis): This interesting paper has been doubly interesting to me, Mr. Chairman, inasmuch as about ten years ago it was my privilege to report in the "Ophthalmoscope" of June, 1900, a case similar to that reported by Dr. Murray today. Since that time I have seen other cases, and I have seen only two cases in which the joints were involved from conjunctival infection. In all the cases that I have seen it may have just happened that the joints were not involved, although there had been persistent involvement until the conjunctiva was involved. Then at the time of the conjunctival involvement appeared the joint trouble. It would perhaps appear that, owing to the nature of the surface of the conjunctiva and its intimate connection with the blood-supply, it is perhaps more liable to be involved, and there is more liability to arthritic involvement than there would be in the neurolemma itself. The method of involvement of the conjunctiva is especially interesting. It has led to a great deal of discussion and is very puzzling, but it comes either through the circulatory lymphatics or through the soluble toxins, settling at those points of infection, but it seems to be very well established that this infection comes right from the circulation. We have never been able to find gonococci in the lymphatics, but they have been found in the circulation; in fact, it has been quite common to find gonococci in different parts of the circulation.

There is one point which interests me very much and I want to mention, and that is the secondary effect of conjunctivitis upon the joints.

Dr. C. H. Hunter (Minneapolis): I want to say just a few words to put on record the facts in a case that possibly does not belong to the paper, which is on conjunctivitis, but a case of possible gonorrheal arthritis. Evidently, they are not expected to make a demonstrated diagnosis. This young woman had scabs, and she had scratched herself until she had numerous abscesses. One on top of the foot was of considerable importance, over an inch in diameter, containing a good deal of pus, and just as these opened and were getting well she had most violent and excruciating pains about the right hip. It was apparently in the joint, but after a couple of days' watching we got it located along the course of the sciatic nerve. The local symptoms were so pronounced that I made an incision of three or four inches along the length of the sciatic nerve, and she was relieved of her pain. Now, at this time she had been taken to the hospital, and a vaginal discharge was reported by the nurse that had not been spoken of before. The pain in the right sciatic nerve still continuing, it was a settled thing that the seat of the infection was of gonorrheal origin. The pains returned, but not with anywhere near the force of the first persistence. The toxin was injected, but had no manifest influence, one way or the other. The thing went on, and six months later the woman was confined of a healthy baby. The baby was perfect, and there were no signs at any time in her person of syphilis, no history of anything of the kind, but on the tenth day as we were expecting she would get up, I found an inflammation of the left eye, suggesting to my mind conjunctivitis, a deep-seated inflammation. I at once turned her over to Dr. J. H. Morse, and the doctor diagnosed it as iritis. There was a recovery from that in a week or ten days under the use of leeches. I could not see that drugs had any effect. She made a good recovery, and recovered from all of her troubles.

Dr. W. R. Murray (Essayist): I do not know that I have anything to add to what I have already stated. I did not take up the treatment in this case, for I recognized it to be of metastatic origin because the condition had existed a month before the case came under my observation.

The prognosis is usually good, and the disease usually runs a mild course. I wished to study the case, and for that reason I used nothing more than boric-acid irrigation. A few weeks before this case came under my observation an article appeared in the Review in which the writer reported a similar case in which he found gonococci, and after repeated observations he said he believed they were present in all cases, and believed the reason they were not found was due to faulty diagnosis, not a careful examination made. I had thirty examinations made and was unable to find any gonococci.

DIPLOMAS IN PUBLIC HEALTH*

BY F. F. WESBROOK, M. D.

Dean of the Department of the College of Medicine and Surgery of the University of Minnesota
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MINNEAPOLIS

We are a nation of individualists, and our natural bent in this direction is increased by the vicissitudes of pioneering. We do not take kindly to the idea of mutual responsibility nor of subjecting ourselves to supervision. Particularly is this so in matters which we are accustomed to look upon as our own personal affairs, in which category health has too long been included. Without delaying to enquire into causes, or pausing to fix the blame for allowing our country to lag behind other civilized countries in provision for the official care of the public health, we can safely assume that there is need for radical reform.

For many years in Great Britain and Germany special training has been required of those who seek appointment in public health office. We have the need in our own country. Is there any corresponding demand on the part of the public and of the medical and other professions for trained specialists who shall devote their whole time and energy to the care of public health? Are we ready to adjust the pay and authority of our health officials, municipal engineers, superintendents of hospitals, and other such workers, to the responsibilities which the public expects them to assume? Are we willing to guarantee them tenure of office dependent alone upon efficiency? Are we ready to insist that they be trained before they assume office, or do we expect them to continue to gain their knowledge, as in the past, at the expense of the public?

The present great wave of publicity will undoubtedly arouse a vital interest and develop a public and private discrimination which demands efficiency. Will the people be willing to pay the price for efficiency?

America can produce results which compare favorably with those of any other nation in public health protection. It has shown this under the most adverse conditions in Panama, Cuba, Porto Rica, and the Philippines. She can, if she will, do the same things for herself at home. All that is needed are the necessary authority and the funds. The men will be forthcoming.

The American Public Health Association maintained for several years a standing committee charged with the responsibility of reporting upon ways and means of providing the requisite train-

ing for public health workers. The Conference of State and Provincial Health Officers of America has had repeated symposia and reports upon the same subject. Various universities and technical schools have provided courses of instruction with appropriate degrees and diplomas, but thus far have not been able to attract students, with the exception perhaps of the Massachusetts Institute of Technology, whose graduates are often illy paid.

The blame for this must be shared by us all. We need not discuss it if we can be sure that it is a thing of the past. If not, we must remove the cause of public and private apathy before we can expect to have students present themselves for a thorough and expensive training, in order to fit themselves for posts which exist only in theory.

Pennsylvania, Harvard, and Columbia have taken up this matter but have not yet made much progress. The state universities of the Middle West are especially well fitted to supply this need, but in no place is there greater opportunity for success than in Minnesota. Our state is conspicuous for its high standards of efficiency in its state hospitals, its state boards, its educational mechanisms, its medical profession, and those other requisites to success in the training and practice of public health.

The writer presented to this Conference two years ago a short paper on a "Course of Instruction for Sanitarians and Sanitary Inspectors." The details of such teaching need not be repeated at this time. A reference to the report of the Council on Medical Education of the A.M.A.* by the sub-committee on Hygiene, Medical Jurisprudence and Medical Economics, may be useful as affording a basis for expansion in various directions, to suit the needs of the different workers in the sanitary field.

Of chief importance is the worker who is known in England as the "Medical Officer of Health," since upon such men must fall the prime responsibility of health-administration in rural districts, whilst in large municipalities and in state and federal work, he should be the means of co-ordinating the workers in specialized health-fields, such as engineers, laboratory workers, statisticians, epidemiologists, social workers, sanitary inspectors, and others. The ability to

*Read before the Minnesota State Sanitary Conference, October 5, 1910.

*A.M.A. Bulletin, September 15, 1909, Vol. 5, No. 1.

secure such co-ordination demands, then, a knowledge in these various directions, to be obtained only from those who are specialists by reason of practical experience in the work itself.

Training should be provided in all of these various lines. The preparation required of the students for entrance into the various lines of study must necessarily differ, as will also the length and character of the courses.

Such a training can be provided at the University of Minnesota by co-operation with other available state, municipal, and voluntary organizations and workers. Briefly, the corps of lectures and practical teachers should include the following:

1. University of Minnesota.
 - (a) Colleges of Medicine and Surgery and of Dentistry.
 - (b) College of Agriculture. (Rural hygiene and food production.)
 - (c) College of Engineering.
 - (d) School of Chemistry.
 - (e) College of Science, Literature and the Arts in scientific laboratories and departments of economics and sociology.
 - (f) College of Education.
 - (g) College of Law.
2. State Board of Health.
Executive Department, as also Engineering, Epidemiological, Statistical, and Laboratory Divisions.
3. State Department of Education, and city departments of St. Paul and Minneapolis.
4. Board of Control institutions and officers.
5. State Live Stock Sanitary Board, State Dairy and Food Department, and Federal Meat Inspection Service at South St. Paul.
6. Municipal Health Departments of Minneapolis and St. Paul, as also city engineer-

ing departments, hospitals for infectious diseases, etc.

7. Attorney-General's Office.
8. State Labor Commissioner's Office.
9. Associated Charities of Minneapolis and St. Paul, State Association for Prevention and Relief of Tuberculosis, etc., and other voluntary organizations and agencies.

Time does not permit of a detailed outline of such courses, but by interesting such agencies and workers as those mentioned and by focusing instruction at our State University and, at certain stages of the teaching, placing the students in the field with those who are actually engaged in the work an ideal training could be provided.

The State Board of Health might reasonably be called upon to perform the same function for graduates in sanitation as is now undertaken by the State Board of Medical Examiners for graduates in medicine, and pass upon their fitness to practice in the sanitary field.

The public should then demand that the protection of public health be placed in the hands of such trained and licensed men.

This can all be done, and the matter has already received long and careful consideration on the part of many who are deeply interested in the welfare of the state. The main question, however, is, Is there need for such a series of courses and can we justify their inception at the present time?

When the International Congress of Hygiene and Demography meets in Washington, in 1912, and the official sanitary representatives of the various countries of the world convene, should we not be in a position to show them that we have made a start, and be prepared to profit by their visit to us in perfecting our sanitary teaching and practice? Have we not neglected this matter too long already?

A PROPOSED PLAN FOR THE ORGANIZATION OF SUB-SECTIONS IN COUNTY MEDICAL SOCIETIES

By ARTHUR S. HAMILTON, M. D.

MINNEAPOLIS

In every city of even moderate size there are found certain organizations which serve as centers of medical life and activity. Even in small towns there are societies where medical men meet and discuss the problems which are of special interest to them. In somewhat larger civic

centers hospitals appear and serve, not only to minister to the needs of the public, but also as most important adjuncts to the post-graduate education of physicians. In the larger and better favored cities we find also medical libraries, journals, laboratories, and schools. Around

these organizations the professional life of the physician centers, and where these agencies act in the most complete unison, there we find the strongest and most influential medical profession. As the community and the profession grow in numbers, however, a tendency to specialize becomes more and more apparent. Special hospitals for particular classes of patients grow up. Medical journals devote themselves to particular fields, and special societies for the consideration of special scientific problems develop.

As the county medical society grows its needs and duties increase until finally the social, legal, legislative, business, and public functions require so much attention that the scientific program necessarily suffers. As a result that class of men who care only for the strictly medical part of the society's work find less and less attraction in the society. Moreover, in every society there are always men whose interest, even from the beginning, lies largely or wholly in certain phases of medicine, and these two classes either form separate organizations entirely apart from the central society, or do not attend the medical gatherings at all.

There must necessarily be in all general programs a certain amount of attention to special phases of medicine, but if each speciality is to grow in its locality and develop as it should, there must be special organizations where men interested in the same line of work can meet and discuss matters which would have little or no interest for a general meeting. For example, if an ophthalmologist prepares a paper on an ophthalmologic subject for the general society he, of necessity, treats his subject in such manner as will be instructive to those whose original interest in it is very much less than his own. He therefore deals in matters which are common knowledge to others in his own line of work, and not only fails to interest them, but fails to derive any personal benefit, such as would have been possible had he been preparing a paper for his immediate fellows.

In many of the older communities special societies have grown up and become strong before the county societies were sufficiently well organized to make provision for them, and now the two cannot be amalgamated, though this would be far preferable. In Chicago and Baltimore all the special societies have become affiliated with the central organizations, and now appear as special sections; but in New York, Philadelphia, and Boston the movement in this direction has been only partly successful. Some

county societies, however, have noticed the coming change and have prepared for it in advance. Thus in St. Louis provision was made in the county society for the organization of special sections, and they now have five, as follows: internal medicine, surgery, obstetrics, ophthalmology, and laryngology.

In respect to the size of the city, the number of medical practitioners, and the local medical condition, Toronto conforms about as closely to Minneapolis as any city on this continent. Two years ago, at the suggestion of Dr. Osler, the central society, then known as the Academy of Medicine, and corresponding to county societies in our larger cities, reorganized in conformity with the plan already adopted at Baltimore, and they now have six sections, as follows: internal medicine, surgery, pathology, ophthalmology and otolaryngology, pediatrics, and state medicine.

Baltimore has six sections, as follows: clinical medicine, pathology and surgery, obstetrics and gynecology, neurology and psychiatry, ophthalmology and otology, and laryngology and rhinology, and at a recent meeting provision was made for a section of medical examiners. Chicago has eleven sections, as follows: surgery, gynecology, urology, dermatology, ophthalmology, laryngology, otology, neurology, pathology, orthopedics, and pediatrics.

These sections are, in each instance, in addition to the general society meetings.

In large cities, such as Chicago and Philadelphia, there have also been organized local branches where the physicians of an outlying neighborhood get together. They have only a geographical significance and are not necessary in a city no larger than St. Paul or Minneapolis.

That the organization of special sections when there is a sufficient number of medical men to warrant it, results in great benefit to the particular specialties involved, would probably be conceded by all, but it may not be out of place to enumerate some of these benefits. Though much has been done in recent years to remove the feeling of distrust and suspicion which different members of the profession entertain for each other, much yet remains to be accomplished, and this feeling is probably nowhere more in evidence than in the relation of men engaged in special practice, to each other. The organization of special societies helps to wipe out these animosities by bringing men together, making friends of strangers, and getting them to really know each other, and thus removing the basis of

many useless quarrels. Such association also develops a feeling of esprit de corps in those engaged in the same line of work and greatly stimulates the interest in original work. These societies are particularly helpful to young men by giving them an opportunity to take part in meetings to a degree such as is not afforded by the general society, but they also serve to stimulate older men and help to renew within them the spirit of action and hopefulness, which, unfortunately, withers all too commonly as the years go by.

Though in the matter of effecting an organization similar to that described, it is particularly necessary to avoid any action which would seem to artificially stimulate the development of any particular section, I do not think it would be out of place to refer, for example, to the benefit which would come from the organization of a section in pathology. The demonstration of anatomical specimens is a most important matter. For the undergraduate student to see sufficient morbid anatomy is difficult, and for the general practitioner it is quite impossible. In practice, many cases remain obscure, and continue so throughout, in spite of all efforts to make a diagnosis. No more instructive work is possible than a careful demonstration of specimens illustrating these obscure clinical conditions, but post-mortems are relatively rare, and unless we collaborate, few practitioners see many. In a well-conducted society this need is met, so far as present conditions in medicine permit.

The exhibition of clinical cases is also an important matter, and this is much better done in sections than in the general meetings.

The question, of course, arises as to the relative value of independent societies and subsidiary sections of a central organization. It has been the experience, I think, of the older societies, that the division into sections not only does not provoke disunity, as is the case where the special societies grow up independently, but, on the contrary, tends directly to greater enthusiasm and a larger membership.

In addition to the saving of time and effort resulting from a central organization, there is to be considered the equally important economy of money. By payment of one fee the member has access to all sections, as well as to general meetings. In addition, the section has the use of the library, rooms, and apparatus of the parent organization. Moreover, the contributions of the sections to the material resources of the

central society are often of considerable value.

In conclusion, I wish briefly to suggest some points which would appear to me to be of importance in the organization of the sections.

No effort should be made by the general society looking to the organization of any special section. In other words, a new section should be organized only as there is a positive demand for it, arising in the natural way. This will prevent the organization of sections which have not sufficient popular backing and which would soon fall into decay. No one should be eligible to membership in the sections unless already a member in good standing of the county society. Whether any one already a member of the county society might acquire a voting membership in the special section simply by the payment of dues, or whether one must submit to election, just as on entering the parent society, is a matter for discussion. The meetings of all sections should, of course, be open to all members of the society, regardless of sectional affiliations.

In order to provide against instituting a subsection without sufficient warrant that it will have permanent support, a new sub-section should be formed only on written request of a certain number of members, approved by the executive committee and passed by a two-thirds vote of the society. When once formed, however, the section should be allowed considerable freedom. It should elect its own officers, prepare its own program, and attend to all its own affairs, in so far as this does not conflict with the general society. As the parent society would provide for quarters for the meeting, the expense would be but slight, and the annual dues nominal.

Though not altogether pertinent to this paper, I desire here to say a word about a more or less related subject. Of the medical men who every year come to the United States from abroad, and of those who live in other parts of the country, the medical men of the Northwest see all too little. We read that these men appear here and there before medical schools and medical societies, but they rarely come to us. Is it not possible that with greater interest in special lines of work we may have more frequently the stimulus of their presence among us? I think it is also not too much to hope that with this added organization, the sections may stimulate, by different methods, more interest in research work.

THE PATULOUS PROCESSUS VAGINALIS THE PREDISPOSING CAUSE TO OBLIQUE INGUINAL HERNIA*

BY FRANKLIN R. WRIGHT, M. D.

MINNEAPOLIS

A hernia is a protrusion of a part of the abdominal contents enclosed in a sac or covering formed by the parietal peritoneum through an opening in the abdominal wall. A hernia may be either congenital or acquired. The terms *congenital hernia* and *acquired hernia* should be self-explanatory; but, unfortunately, some writers use the term congenital hernia to designate a particular form of inguinal hernia in which the vaginal process of the peritoneum has remained open, allowing the protruding viscera to come into direct contact with the testicle, while others use the term to mean any hernia which may develop in a sac or pouch of the peritoneum which was present at birth.

A hernia is a very common condition: one person in forty has a hernia of some variety. In children inguinal hernia is found in the ratio of twenty in boys to one in girls; among adults the ratio is ten in the male to one in the female. In adults nine inguinal herniæ occur to one femoral, and ninety-three per cent of inguinal herniæ are of the oblique variety.

This preponderance of indirect inguinal hernia over all other varieties, particularly in male children, as shown by the above figures, is too marked to be accidental. It must have a direct cause behind it. In a recent article† Dr. J. E. Moore, of Minneapolis, gives Koch the credit of first suggesting that "all herniæ are due to congenital defects" and adds that it is his belief that this theory is correct with reference to oblique inguinal herniæ, and says that he bases his belief on the fact, that, in young patients, he has usually been able to demonstrate a congenital sac; that is, he has usually been able to demonstrate an opening between the hernia sac and the cavity of the tunica vaginalis testis. The late Dr. Wm. T. Bull said‡ that in a series of five hundred cases under fourteen years of age he was able to demonstrate this opening in somewhat less than one-half.

After mentioning that the vaginal process of the peritoneum is not always properly obliterated, Dr. Moore asks: "Is not this congenital defect, the patulous processus vaginalis, the predisposing cause to inguinal herniæ?" That an open process of peritoneum extending through

the abdominal wall would be a predisposing cause to hernia no one will deny; but that being able to demonstrate a congenital sac, i. e., a sac communicating with, or opening into, the cavity of the tunica vaginalis testis, in approximately fifty per cent of cases, is proof that the other fifty per cent have the same predisposing cause, is not so clear.

The testicle appears in the embryo, during the second month, behind the peritoneum, opposite the first and second lumbar vertebræ. From this position it moves along the abdominal wall and arrives at the internal abdominal ring about the sixth month. It enters and passes through the inguinal canal, usually reaching the scrotum toward the end of the eighth month of intra-uterine life. The vaginal process of the peritoneum precedes the testicle through the inguinal canal, and as the testicle moves along the canal it passes behind, not through, the vaginal process.

I wish to emphasize the last statement, because an article in a recent journal, and some of our standard text-books on anatomy, surgery, and genito-urinary diseases, state that during its descent the testicle passes through the vaginal process of the peritoneum. During the early months of intra-uterine life the testicle is within the abdominal cavity. It is always, however, behind the peritoneum, and at no time during development or in later life is the testicle within the peritoneal cavity; therefore it is impossible for it to pass through the vaginal process.

As the testicle passes through the inguinal canal, it invaginates the posterior wall of the vaginal process, thereby receiving a covering of peritoneum which envelops it completely, except at its posterior border where the epididymis is attached. This covering of peritoneum later becomes the visceral layer of the tunica vaginalis.

During the descent the testicle carries with it the epididymis, vas deferens, and the vessels and nerves which are found in the spermatic cord. The spermatic cord reaches from the testicle to the internal abdominal ring. It lies behind the vaginal process, and, throughout its entire length, is intimately united with the posterior wall of this structure. As obliteration of the vaginal process occurs, its walls shrink and become adherent to each other, and it is converted into a fibrous band, which becomes a part of the spermatic cord. At no time after the descent of the

*Read before the Hennepin County Medical Society, September, 1910.

†The Journal of the Minnesota State Medical Association and Northwestern Lancet, Aug. 15, 1910.

‡International Text-Book of Surgery.

testicle is the vaginal process separate from the spermatic cord, and at no time is it attached to the wall of the canal.

If we expose the sac of the femoral hernia (a typical form of acquired hernia), and, after reducing its contents, make traction on it, we find that we can draw it out a reasonable distance, without using force; if we make pressure on it in line with the axis of the femoral canal, we find that it can easily be returned into the abdominal cavity, proving that this acquired sac is not attached to any structure in the canal through which it passes. It is simply a protruding pouch of peritoneum.

If we expose the sac of an oblique inguinal hernia, and, after reducing its contents, attempt either to draw it out or return it to the abdominal cavity, we find that we can do neither. The sac is adherent throughout its entire length to the spermatic cord, which lies behind it in the canal. Careful examination will show, however, that the sac is not attached to the walls of the canal.

The inguinal canal of an eight-month male fetus contains the spermatic cord and the vaginal process of the peritoneum, which lies in front. The posterior wall of this peritoneal pouch is intimately united throughout its entire length with the anterior surface of the spermatic cord. The inguinal canal of a youth or an adult male in whom oblique inguinal hernia, congenital or acquired, is present, contains the spermatic cord and the hernial sac, which lies in front. The posterior wall of this peritoneal pouch (the sac) is intimately united throughout its entire length with the anterior surface of the spermatic cord. The two are identical. In each the inguinal canal contains the spermatic cord and a pouch of the peritoneum, which are firmly united with each other, but not attached to the walls of the canal. If this condition is one of development in the fetus, why is it not in the youth or adult? If this condition is acquired in the youth or adult, why is the sac united with the spermatic cord and not with the walls of the canal? Under what condition will a pouch of peritoneum, if forced through the abdominal wall, invariably attach itself to only one of the tissues with which it comes in contact, and why always to the same structure?

Various writers have mentioned the attachment of the sac to the spermatic cord, but none, so far as I know, have laid special stress on the lack of attachment of the sac to the walls of the inguinal canal. It is the combination of these two,—the attachment to the cord and lack of attachment to the walls of the canal,—which makes

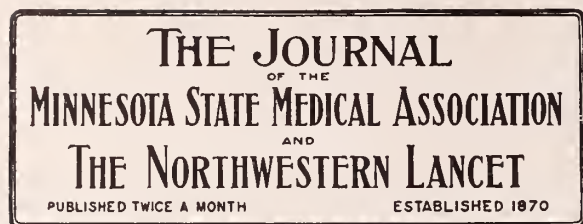
the similarity between this condition and the structures found in the fetus, and, in my opinion, stamps this condition as one of embryonal origin.

If the above statements and questions are logical, the sac of any oblique inguinal hernia which is attached throughout its entire length to the spermatic cord, and not attached to the walls of the canal, must be considered as having been present from birth and, therefore, a congenital sac.

The patulous processus vaginalis is the predisposing cause to oblique inguinal hernia, and the proof is in the fact that the sac is always united throughout its entire length with the spermatic cord, *but never with the walls of the canal.*

BOTTLED MILK AS HEALTH MEASURE

J. M. Howell, Dayton, Ohio, after noticing the mortality statistics in infants, points out the difficulties we have to meet in reforming the conditions. First, he thinks that the producers oppose any measures when they are first offered though he does not regard them as the greatest foe to reform in our milk supply. The greatest difficulties he encounters are the low sanitary ideals and practices of the politicians that control municipalities, and he gives illustrations from his own observations and experience. Notwithstanding strong organized opposition, a bottling regulation was passed and successfully fought through the courts which as the first of the sort in the state is quoted verbatim by him in his paper. Of course milk delivered in bottles may be as insanitary as that delivered in cans, but, assuming that it is cleanly in its origin and is surroundings, it is a great improvement. The possibilities of contamination of food by careless servants or others is also to be considered, and in this connection he refers to the well-known case of the cook reported by Dr. Soper in *The Journal A. M. A.*, June 15, 1907, which has been extensively noticed in the public press. It should be insisted that examiners and dairy inspectors should thoroughly investigate the personal condition and habits of all handlers of milk.—*Journal A. M. A.*



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DECEMBER 1, 1910

TALK! TALK! TALK!

For many reasons it seems fitting to comment upon the frailty of the human race in expending its energies in talking rather than acting. The present protest is due to the fact that the writer is a member of many committees who enjoy vocal exercises at times and places when a bit of good hard active work would accomplish the result sought after much more quickly than any amount of comment or discussion. The world seems to be full of big committees, sub-committees, and committees of one or two who meet with the avowed purpose of performing an extraordinary task, and end in blowing off mental steam that is disseminated in the surrounding smoky atmosphere. Doubtless there are occasions when men should meet to discuss topics of interest, but in the majority of cases the work could be accomplished in a more direct manner than is usually employed.

To call a body of men in conference to discuss subjects of which they know nothing, means procrastination or failure. A few men who are familiar with the details of a matter under discussion can act upon or settle the majority of important problems within a reasonably short time. A committee composed of a few interested and a larger number of disinterested

or indifferent persons, can waste more time and nerve-energy than a poor snowplow bucking a western snowdrift after a cold blizzard. Men are not the only sufferers, for women are often equally inefficient in committee work. They meet, wrangle, and adjourn; and the world goes on its placid way.

The reforms we all hope for are not often brought about by talking. The right man or woman in the right time and place can overcome obstacles that prevent the progress of the many. If, however, the various committees were not permitted to discharge their cortical impressions, there would be a disgruntled lot of people raging and storming at some other theme. Perhaps, therefore, it is as well that the present fad for expelling pulmonary carbonic acid gas shall prevail, but in justice to the suffering few it is respectfully urged that those who instigate committee meetings shall be fully prepared with short and concise briefs on their pet subjects, and that all discussions must keep to the subject-matter, and any man, or woman, who attempts unnecessary mental excursions shall be forcibly expelled from the committee-room. When a mixed body meets to discuss the tuberculosis problem, and one individual brings in the subject of "infant-damnation," that member should be summarily executed, and the meeting should be adjourned.

Seriously, many of us are sick of so much committee work, and we pray that someone will get up and do something.

LOW DEATH-RATE IN THE TWIN CITIES

The recent U. S. census findings give Minneapolis and St. Paul, the Twin Cities, about 516,000 people. Both cities have astonished the country by showing a death-rate lower than any other cities of like size on our map. The difference between the death-rate in St. Paul and Minneapolis is less than one full point, and although St. Paul claimed the lowest rate the percentage is about the same in the two cities, being a trifle lower in Minneapolis.

St. Paul has long had a better water supply than Minneapolis, but Minneapolis has cleared its water of organic matter to such a degree that it is practically free from bacteria. Minneapolis has a larger population, and many of its inhabitants come from distant parts of the globe, and the majority of these are of a hardy and healthy race, coming here in young life. It is impossible to draw a line of health between two

cities that are so closely united, and where the intervening space is so compactly built up. Very little unoccupied space remains except when it is undesirable for residence property. The constant interchange through four interurban car-lines creates a constant intermingling of people, and if an epidemic exist in one city it is very apt to show itself in the other.

However much one municipality may advertise its lower death-rate over the other, one thing remains clear. There is no jealousy about the mortality between the medical profession in the two cities. Both cities are full of physicians who are of one mind, namely, to continue to advance every protection for the public health. In this proposition the cities stand together.

In each city the health commissioner and the inspectors are doing everything in their power to advertise the healthfulness of the community. In each city there are many faults that should be corrected, but this cannot be accomplished until sufficient funds are placed at the disposal of the health authorities. The people are gradually awaking to the importance of public health measures, and as soon as possible the needed funds will be forthcoming.

In spite of the backbiting of the League of Medical Freedom, and other antimedical cults, the health of the cities has steadily improved. The ordinances governing the suppression of preventable diseases have gained in power and popularity, and good health will some day be a fad.

AN UNEXPECTED VISITOR TO THE CITY HOSPITAL

A number of society women in one of the largest cities in Minnesota were discussing various topics, as women will, and the subject of the city hospital came into the social field.

It was reported, with bated breath and much shaking of the head, that someone had told someone else that she had heard that the city hospital was a very untidy place, full of vermin and very much overcrowded, and that gross irregularities existed in a most glaring manner. As usual, under such circumstances and in such a company, much sympathy was expressed for the unfortunate poor; and many severe condemnatory criticisms were uttered. The discussion drifted, as such discussions do under similar surroundings, to the question of the propriety and the shortness of the now famous hobble skirt.

Fortunately, one woman in the gathering had

a fixed idea, and that was to investigate in person for herself and then form her own conclusions. A plan was decided upon, and within a few days this committee of one, dressed in a simple suit and an unostentatious but modern hat, and without her limousine, approached and entered the hospital. Without giving her name she asked to be shown over the hospital from basement to top floor. Having had experience, founded on previous work on hospital boards, and having been a patient in an eastern hospital, she had no difficulty in seeing everything there was to be seen. No effort was made by the conducting nurse to evade corners or to conceal any part of the building. The inspection was thorough and complete, and was made by an intelligent woman who sought the truth.

She expressed herself later to her women friends in no uncertain terms. She emphatically declared that the hospital was clean, its floors and the bedding; the patients were comfortable and contented; the nurses were quiet, attentive, and thoughtful; and when asked if the patients were well fed they said they had no complaint about their food or their comforts.

Considering the class of patients usually found in municipal hospitals the visitor announced that the city hospital was as good as any hospital she had ever visited, the medical staff of internes, although they looked young, as they are, were gentlemanly and attentive, and no patient complained of lack of attention.

Her only criticism was, and that is shared by the superintendent and his medical staff, that the hospital was too small and hence was crowded and that there were not enough nurses for effective service during a typhoid epidemic, such as now prevails.

This woman had the proper spirit and the courage of her sex. She investigated for her own information and has given that information to others.

Much of the misinformation and gossip that float about a community could be easily dissipated if more people would see for themselves, and honestly report their findings to their friends who lack information. If criticism is deserved it should be made directly to those in authority, and when given in this manner, any wrongs will be promptly righted.

It is to be hoped that this report will be given wide circulation, and that it will impress others with the necessity of inspection before unjust criticism is launched in social or business circles.

CORRESPONDENCE

A CORRECTION

Willmar, Minn., Nov. 20, 1910.

TO THE EDITOR:

I desire to call attention to the report of the debate in the House of Delegates at the late Association state meeting, which will be found on page 489, of last issue of THE JOURNAL-LANCET. I am reported therein as making uncomplimentary statements about individuals. This is not a correct report or construction of my remarks. Whatever criticism I made about the product of the poor medical college was not intended to apply to any individual graduate of such, but to the product of such colleges as a whole.

The report is, of course, not complete, but is, rather, a disjointed summary of the debate. I realize the difficulty of reporting such extempore talks when the speaker is at times trying to answer several questions at the same time. I certainly did not intend to reflect on the character of any licensed physician of this state, nor on any medical college in particular. We have tens of thousands of the best physicians in the world in this country today who graduated from poor and inefficient medical colleges, but that fact is no excuse for the recognition in the future of such institutions by the Minnesota State Board of Medical Examiners.

Respectfully,

CHRISTIAN JOHNSON, M. D.

"606"

Vienna, Austria, Oct. 21, 1910.

TO THE EDITOR:

"606" continues to be the all-absorbing topic in the medical, as well as in the lay, press, and everybody is anxiously awaiting the final reports from the different clinics.

Dr. Glaser, of Vienna, has written a pamphlet upon the subject after having visited Professor Erlich at Frankfort and after having seen the drug used by different clinical teachers, among them the celebrated Professor Alt. His opinion is that the drug does absolutely all that has been claimed for it, and that particularly in so-called lues maligna it is a specific. He cites numerous cases where the patients have been moribund and where everything has been tried and nothing has helped, and then after one injection the different symptoms disappear, the

patients gain in flesh, pain and other pathological symptoms disappear, and the patients are walking around, well and healthy. Particularly is it in the third stages that the preparation shows such surprising results. Also from the Garrison Hospital at Buda Pesth, where they have a very large number of luetic cases, is the report very favorable.

Among the numerous bad cases Dr. Glaser describes as being cured, I shall record one case of a man who contracted lues in 1894. This patient had very severe pains in the right foot, which were so bad at night that he could not sleep. He tried everything without any result, and he then had the foot amputated. In the following year he went to Gancher in Paris, as the disease was steadily getting worse, and took 210 injections of some mercurial preparation without any results. The same terrible pains now started in the left foot, and then he had that also amputated, for he was getting almost insane with pain. He then came back to the Garrison Hospital in a dying condition. The disease was now in the right hand. Although there was a question of the propriety of injecting him with the "606," he begged to have this done. The bones of his right hand were very much inflamed and extraordinarily painful. Four days after the injection the pain and the swelling were entirely gone, and in a short time the patient was up and around.

There are plenty of reports of such cases as this, and particularly has the remedy been well spoken of in brain syphilis, in tabes dorsalis of luetic origin, and even in epilepsy has the drug proven of value.

Here in Vienna there are at present differences of opinion, but on the whole the reports from the different clinics are favorable ones. It will, however, take a long time before absolute conclusions can be arrived at. The scientific name of "606" is "dioxydianido-arsenocenzol." It is a white powder soluble in an acid medium, then alkalized and becomes turbid, when it is injected practically in the form of an emulsion. It is an organic arsenical compound and consequently is a very strong poison. In Vienna there has so far been reported one death said to be caused by the use of the drug. The patient, however, had leukemia, plus syphilis, and it is doubtful if the death was due altogether to the injection of the remedy.

Some very disagreeable and dangerous symptoms have, however, shown themselves to follow the administration of the drug, such as optic

neuritis, ptosis, albuminuria, and necrosis of the muscle at the point of injection, and all the clinical teachers are of the opinion that it is a very dangerous drug, and particularly so in the hands of unskilful physicians.

The drug cannot yet be obtained in the open market, and Professor Erlich is sending it only to personal clinical friends and to teachers of known ability. These men are all reporting their results to him, and the remedy will not be obtained before all these reports have been published.

There is, however, a good deal of opposition to the use of the drug, especially from a moral standpoint. This has been raised by the great French surgeon, Dozen, who claims to have discovered a better remedy himself, of which nobody has heard. He thinks that prevention should be the main remedy in venereal diseases, and not a direct cure, as he seems to think that the people will expose themselves gladly to syphilis when they know that they can be cured with one injection of "606." His opposition is not a very formidable one, and can probably be put to the account of personal jealousy.

On the whole, "606" seems at present to fulfill most of the claims that have been attributed to it, and if by continuous trial the drug shall be found to be what is now hoped for it, Erlich's name will go down in history as one of the greatest, if not the greatest, benefactor of humanity.

Respectfully,

J. LYNK, M. D.

BOOK NOTICES

PEDIATRICS. Edited by Isaac A. Abt., M. D., Clinical Professor of Pediatrics, Northwestern University Medical School, with the collaboration of May Michael, M. D.

ORTHOPEDIC SURGERY. Edited by John Ridlon, A. M., M. D., Professor of Orthopedic Surgery, Rush Medical College, with the collaboration of Charles A. Parker, M. D. Vol. VII, The Practical Medicine Series. Cloth, pp. 242, with illustrations, \$1.25. Chicago: The Year Book Publishers, 1910.

The average text-books on these subjects are from five to more years behind the times on some of the included topics. This volume, as with all of the other members of the series, is composed of reviews of the world's most important monographs and articles that have ap-

peared during the year 1909, together with references to the original publications. As such it presents the latest information and knowledge on the above subjects, all in a most concise and readable form. The field of pediatrics is quite completely covered, while that of orthopedics, though only partially so, is of special value on the subjects of flatfoot, the sacro-iliac joint, diseases of the shoulder-joint, including a review of Codman's recent contribution, and the treatment of the results of infantile paralysis.

PREPARATORY AND AFTER TREATMENT IN OPERATIVE CASES. By Herman A. Haubold, M. D., Clinical Professor in Surgery and Demonstrator of Operative Surgery, New York University and Bellevue Hospital Medical College, New York. First Edition, 640 pages, with 429 illustrations. D. Appleton & Company, New York and London, 1910.

Dr. Haubold's introductory discourse on the relationship between the physician (the general practitioner) and the surgeon is quite as interesting, if not as convincing, as the chapters following, devoted to the consideration of the ante- and post-operative periods.

This line of differentiation is becoming more and more difficult to draw, in fact the relationship between the physician and surgeon can be compared nicely to the appearance of an acute inflammatory area. "The redness which is most intense at the seat of greatest activity spreads in all directions, gradually fading into the surrounding area." However, it is the author's intention to "furnish a work from which the practitioner can draw information with regard to the handling of a case to be operated upon from the time the decision to operate is reached up to the making of the incision, and then take up the case again from the time the operative technic is ended until recovery is complete."

Granting that the author's intentions are well founded and that under exceptional, though not frequent, circumstances, it is necessary that operative cases be so managed, the reviewer cannot refrain from saying that the prevention, recognition, and treatment of post-operative complications require more surgical skill and experience than the mechanical performance of many difficult operations. Any one who operates should appreciate that his responsibility ceases in degree only at the termination of a successful convalescence, and not at the time the patient regains consciousness from the anesthetic.

Under other than ideal circumstances, it would seem wise for the surgeon who was about

to leave the responsibility of the after-care in the general practitioner's hands to give explicit directions for the ordinary treatment, and to mention to those of limited experience in this field the possible complications which might arise in that particular case, the most common symptoms leading to their recognition and the treatment of the same. Altogether, if there be any value in specialization, it seems that leaving the post-operative treatment to the untrained or inexperienced, or encouraging the general practitioner to assume this responsibility, is a dangerous teaching and a step in the backward direction.

The author states that if his work achieves nothing beyond placing the relationship of the practitioner and the surgeon to each other, and of both toward the patient, on a more equable and proper basis, he will feel that a worthy object has been attained. Upon reading this introductory chapter it is possible that some physicians might feel that at last matters had been adjusted and that a surgeon who would follow this teaching was the one to whom they would wish to refer their cases, but here, again, the patient ought to be considered, and the conscientious surgeon who assumes the responsibility in operating, must ask himself some of the following questions: If Dr. Smith sees a case of scarlet fever at 8 A. M., would I wish him to dress my abdominal case at 8:30? If Dr. Smith dresses this appendiceal abscess case at 8 A. M., is it right that he care for Mrs. Jones in her confinement at 8:30?

In the chapters following, the reading is full of meat, and the author has drawn freely from all sources.

The information contained in the first few chapters is presented in the usual text-book style, but arranged in such a manner that one subject leads naturally to the other.

In chapter XIII the real value of experience in the treatment of the post-operative period will be appreciated. The questions of thirst, pain, feeding, changing of dressings, indications of vomiting, tympanites et cetera, will call for aid from those especially trained and doing this work daily.

In response to a question relative to his methods of treatment of the post-operative period, a great surgeon has said, "If the patient don't bother me, I don't bother the patient." It would be well to have this good advice incorporated in the chapter on dressings.

The rest of the book deals with the special

operations, the several procedures varying with the fancy of various surgeons from whom the author quotes, in addition to those which he prefers.

The young surgeon will appreciate and derive much more benefit from a careful perusal of the book than will the general practitioner; and while the author's desires may or may not be attained with the general practitioner, the beginner in surgery will find its contents arranged in a useful and systematic manner.

REPORTS OF SOCIETIES

MINNESOTA ACADEMY OF MEDICINE.

The November meeting of the Academy was held at the Minnesota Club, St. Paul, Wednesday evening, the 2d.

After dinner had been served the Academy was called to order by the President elect, Dr. S. Marx White.

Dr. H. P. Ritchie presented a clinical case, and showed x-ray pictures of "painful heel." The pictures had revealed a spine on the os calcis, which he had chiselled away, giving relief to a very annoying condition.

Dr. F. A. Dunsmoor described an operation for removal of a dead fetus.

Dr. Arnold Schwyzer, in commenting on Dr. Ritchie's case, said that the cases showing this spine are not so very rare, and some of them are without symptoms, but when they are as large as the one shown they are very painful.

Dr. Schwyzer described also a case of hernia cerebri, which came to him after injury, and operation by another surgeon. The hernia was hemorrhagic and necrotic. About two tablespoonfuls of gray matter were lost in preparing to close the bony opening. This was done by cutting a flap consisting of the skin, the periosteum, and the outer table of the skull, all of which were raised by means of a very thin sharp chisel. This flap was turned into the opening in the skull and bound in place. The result was very satisfactory.

Dr. J. C. Litzenberg cited a case of extra-uterine pregnancy somewhat similar to Dr. Dunsmoor's case. The site of the placental attachment was packed about with gauze, and it was allowed to drain away. A good recovery followed. Three months later the woman had strangulation of a loop of intestine from adhesions and another operation. This gave an excellent opportunity to examine the site of the

placental attachment, and it was found to have healed perfectly.

Dr. J. E. Moore said that he had seen a good many cases of painful heel, and that they had all occurred in young men. He believes that most all of them had gonorrhea, and he believes that the condition is caused by gonorrheal infection of the bursa about the bony spine. He had operated in the same way as Dr. Ritchie by going in on the side of the heel and cutting away the bony spine with a chisel and forceps.

Dr. A. T. Mann then read a clinical report of gall-stones, with some special complications.

Dr. Justus Ohage followed with the history of his own experience in surgery of the liver. He stated that in 1886 he performed the first operation for complete removal of the gall-bladder that had ever been performed in the United States. In the experimental work preparatory to the operative surgery he had sacrificed the lives of about eighty dogs. In a paper read before the Ramsey County Medical Society, and published in the Medical News, February 19 and 26, 1887, he had given detailed description of this work, together with a complete bibliography of the subject up to that date. In that tabulation he showed that the operation, cholecystectomy, had been performed nine times. By Langenbeck of Berlin, who first proposed it, it had been performed five times, with one death; by M. Thiriar, twice, both times successfully; by Courvoisier, once successfully; and by Ohage once successfully, the latter being the first case of the kind in the United States. In view of these facts Dr. Ohage claims the distinction of being the pioneer of this branch of surgery in America, and judging by the hearty applause at the close of his discussion the Academy of Medicine heartily accorded the doctor that distinction.

Dr. S. Marx White then read the president's inaugural address, on "Some Problems in Medical Education in Minnesota."

ARTHUR W. DUNNING, M. D., Secretary.

CLAY-BECKER COUNTY SOCIETY

The Society met at Moorhead on October 31, with eight members present.

Dr. E. R. Barton, of Frazee, read a paper on "Anterior Poliomyelitis."

The new councilor of the first district attended this meeting in his official capacity.

E. R. BARTON, M. D., Secretary.

BLUE EARTH COUNTY SOCIETY

The Society met at Mankato on October 31st, with fifteen members present.

The following papers were read: "Diagnosis of Syphilis," A. E. Sohmer, Mankato; "Prophylactic and Abortive Treatment of Syphilis," A. O. Bjelland, Mankato; "Constitutional Treatment of Syphilis," Dr. Lida Osborn, Mankato; "The Use of Potassium Iodide and Local and General Treatment of Syphilis," Dr. Rosenwald, Mankato.

T. C. KELLY, M. D., Secretary.

PARK REGION DISTRICT AND COUNTY SOCIETY

The Society met at Fergus Falls on October 12, with twenty-four members present.

Papers were read as follows: "Some Common Intestinal Troubles," Dr. J. C. Serkland, Rothsay; "Dysentery and Its Peculiar Complications as Manifested in Our Present Epidemic," Dr. J. L. Berthold, Perham; "Tobacco Toxicemia," Dr. J. A. Freeborn, Fergus Falls.

Dr. C. A. Lester, of Alexandria, was elected to membership.

Mrs. Caroline Bartlett Crane was present and gave a very interesting talk about her work on sanitation.

L. A. DAVIS, M. D., Secretary.

RICE COUNTY SOCIETY

The Society met at Faribault on October 19th, with thirty members present. Papers were read as follows: "Ophthalmic Migraine," Dr. C. Eugene Riggs, St. Paul; "Vascular Surgery," Dr. Geo. R. Curran, Mankato; "Diagnosis and Classification of the Feeble-minded," Drs. A. C. Rogers and Fred Kuhlmann, Faribault.

The Society was entertained as guests of the School for Feeble-minded, and invitations were sent to the members of the Blue Earth, Steele, and Mower County Societies. About twenty visiting physicians were present. Considerable time was spent in visiting the buildings and grounds of the institution under the guidance of the superintendent, Dr. A. C. Rogers.

FREDERICK U. DAVIS, M. D., Secretary.

JACKSON COUNTY SOCIETY

The regular annual meeting of Jackson County Society met in Lakefield, on November 15, 1910, with seven members present. The fee-bill was revised and adopted. The following resolution was passed:

"Resolved, that the members of Jackson Comm-

ty Medical Society agree and adhere to the fee-bill as read, and subscribe their names to same."

The following officers were elected:—President, Dr. H. L. Arzt, Jackson; vice-president, Dr. H. L. Leigh, Lakefield; secretary-treasurer, Dr. Iver S. Benson, Jackson; censor (3 years), Dr. Allen, Heron Lake.

Dr. Leigh, of Lakefield, read a paper on "What I Want to Expect of My County Society."

This paper was very interesting, and was discussed by the members present.

The following resolution was passed:

"Resolved, that any member who is deliberately absent from three consecutive meetings, shall be dropped from the roll."

The next regular meeting will be held in Heron Lake in May, 1911.

IVER S. BENSON, M. D.,
Secretary-Treasurer.

HENNEPIN COUNTY SOCIETY

A stated meeting of the Society was held on October 3d, with sixty members present. In the absence of the president and vice-president, Dr. H. B. Sweetser was elected chairman.

The Board of Censors recommended the following for membership: Dr. Richard R. Cranmer, Dr. M. F. Maguire, and Dr. Arthur C. Strachauer.

The secretary presented the following names accompanied with transfers: Dr. C. W. Watson, Dr. Norman M. Smith, and Dr. Frederick W. Schulz. Upon a ballot all six were declared elected.

The members of the Committee on Collections after careful consideration and investigation, respectfully submit the following report:

"This committee was appointed after it had been proven that every individual and united effort for a satisfactory system of collections had ty Medical Society, with desk-room in the Li-will increase the membership of Hennepin County Medical Society, and the revenue of its members. We propose that the members of this Society form a separate though allied body to the Hennepin County Medical Society, to be known as the Legal Department of the Hennepin County Medical Society with desk-room in the Library, this department to be in charge of a committee of three, elected by its members with meetings from time to time. The employees of this department shall consist of one woman clerk at a salary of \$40 a month, and an attorney, to whom we shall turn over all our cases for suit, at a very reasonable, flat rate of commission.

"Any member of Hennepin County Medical Society in good standing may become a member of the Legal Department upon the payment of \$1.00, which shall constitute every and all expense attached for membership, the money thus secured to go toward the initial expense of a desk, typewriter, and correspondence material.

"Any member of this Legal Department at any time may send any bill against any individual or corporation for collection. For each bill thus sent in for collection a charge of 20 cents will be made, which must accompany the bill. This will provide for sending to the debtor for three months a monthly statement of the follow-up variety under the billhead of the Legal Department of Hennepin County Medical Society. The member sending in a bill may refer it to attorney at any time for suit.

"This department will maintain a system of rating. The sender of a bill establishes the rating of his debtor, the method of rating to be decided by the Department. Any member wishing to know the rating of his patient, may call in person at the office or by leaving his name and telephone number, the secretary will call him later and give the desired information.

"This plan will become operable only when two hundred members have been secured.

"The purposes of the plan submitted are (1) to make an honest and proper effort to aid the physician in his business; (2) to avoid antagonizing the patient and doctor; (3) to assist in placing a check on the class of people who can pay, but employ different physicians and pay none; (4) to give such patients their proper rating. Then, if a physician wishes to attend them, he is in a position to know what to expect and how to proceed; (5) to increase public respect for our individual monthly statements."

Dr. L. W. Day moved that the Hennepin County Medical Society give its consent to the establishment of this department. Motion seconded, and carried.

Dr. D. O. Thomas: Tomorrow we shall welcome you in meeting with us at our own table in the Library Rooms for the first time. We hope to have everything satisfactory for this first light lunch.

The four or five lectures at the beginning of this course are of general interest. One of these introductory lectures which will be of particular value is on obstetrics. Tomorrow we shall hear some statements in reference to the theory of evolution.

Last year the lectures were held on Wednesday, but owing to the fact that some who were

doing clinical work were deprived of the opportunity to attend these lectures throughout the year, the committee thought that, as a matter of fairness, the day should be changed from Wednesday to Tuesday this year.

The following names were placed in nomination for membership: Dr. Hallward M. Blegen and Dr. Stanley R. Maxeiner.

Dr. F. S. Bissell: Under the head of new business I should like to inquire if the Society has a Press Committee. It has long been my idea that we ought to be in a position to transmit certain items of news which would not only be of interest to the public, but of value directly or indirectly to the medical profession. It seems to me that the only way this can be done is through a definitely formed committee in the Society. I have talked with newspaper men, and they tell me that newspaper men are not in a position to know what is of value and that medical men are not in position to know what is of news value. So if the newspaper men and a Press Committee would work in conjunction it would be an excellent idea.

I move that a committee of this kind be appointed. The motion was seconded.

Dr. H. W. Jones: I would like to say a word about another move that is being made that would possibly take in this to a certain extent. The Alumni Association of the Medical Department of the University has taken this matter up under three headings: first, publicity in obtaining appropriations for buildings at the University; second, appropriation for instruction along the lines of public health; third, publicity in regard to general medical education.

We have already secured a press agent, but are not quite ready as yet to ask the endorsement of such bodies as this, but the work is being done along educational lines. There will be no personal jealousy, and we hope for the co-operation of the whole profession in an educational campaign throughout the state to advance the best interests of the whole medical profession in educating the people.

Motion carried.

PROGRAM OF THE EVENING

Dr. H. L. Staples gave a report of a case of septic endocarditis, with recovery. The report was discussed at length. (See page —.)

Dr. Franklin C. Wright read a paper on "Oblique, Inguinal Hernia is Always a Congenital Sack." This paper was also discussed at length. This paper will be published later.

C. H. BRADLEY, M. D., Secretary.

NEWS ITEMS

Dr. J. H. Heimark has moved from Gary to Hawley.

Dr. E. F. Warner has moved from Duluth to St. Paul.

Dr. Martin O. Hansen has moved from Dassel to Owatonna.

Dr. W. A. Meilicke has moved from Vernon Center to Janesville.

Dr. A. F. Schmitt, of Mankato, has returned from his European trip.

Dr. Jay M. Crowley has moved from Ellsworth to Rock Rapids, Iowa.

Dr. Arthur J. Button has moved from Tolstoy, S. D., to Mobridge, S. D.

Dr. R. I. Hubert, of St. Paul, has gone to Europe for an outing and for recuperation.

Dr. Fred C. Westerman, a recent graduate of Marquette, Mich., has located in Montgomery.

Dr. E. A. Loomis, of Somers, Mont., has sold his practice and will move to Portland, Oregon.

Dr. C. U. Abbott has moved from Aurora to Minneapolis, with offices at 422 Hennepin Ave.

Dr. R. A. Reed, of Hetland, S. D., was married last month to Miss Myrtle Ruark, of Huron, S. D.

Dr. George B. Peterson, of Dassel, was married last month to Miss Alice A. Larson, also of Dassel.

The doctors of Wausau, Wis., have adopted measures, in the form of a credit-list, to collect their bills.

Dr. John D. Taylor, of Grand Forks, N. D., has gone to Europe, and will be absent most of the winter.

Drs. H. S. Plummer and E. S. Judd, of Rochester, accompanied by their wives, have gone to Europe.

Dr. Frederick E. Leavitt, of St. Paul, has gone to Vienna, and will remain abroad until next summer.

Drs. C. J. and C. N. Spratt have moved from the Syndicate Arcade to the Reed Block, 9th and Nicollet, Minneapolis.

Dr. Linn A. Kelly, of Winona, died last week,

at the age of 65 years. He had practiced in Winona for forty years.

Dr. Moses Strathern, who has been assisting his brother at St. Peter for the past six months, has located at Faribault.

Dr. Walter Higgs, of the More Hospital Staff, Eveleth, was married last month to Miss Eleanor Erb, of Chicago.

Faribault is to have a visiting nurse to care for the poor sick. The money for her salary has been raised by subscription.

Pierre, S. D., is to have medical inspection in her schools. The work will be done gratuitously by the physicians of the city.

At the last meeting of the Grand Forks (N. D.) District Medical Society, the entire evening was given to a symposium on colds.

Glendive, Mont., hopes to have a fine hospital, which will be built by the citizens in co-operation with the railroads running through that place.

The hospital at Northfield has purchased a building, and has moved from the Old Fellow's hall, which was wholly inadequate for the hospital's demands.

The Minnesota Valley Medical Society and the Southern Medical Association will hold a joint meeting at Mankato on Tuesday of next week, Dec. 6th.

Dr. H. Vander Erve, of Carrington, N. D., has purchased the practice of Dr. Stephen Fisher, of Dickinson, N. D. The latter has gone to Milwaukee, Wis.

Drs. Charles H. Mayo and William McCarty, of Rochester, have been made honorary members of Alpha Kappa Kappa, the medical fraternity of the University.

Drs. Van Valkenburg and Liedl, of Long Prairie, have moved into a handsome and commodious office-building erected by themselves for their exclusive use.

Drs. Movius and Wood, of Jamestown, N. D., have purchased a commodious residence in that place for use as a hospital. Two graduate nurses will have charge of the hospital.

School inspection will be carried on in Winona by a number of physicians and dentists, who have volunteered to do the work gratuitously until paid inspection can be established.

Dr. Frederick W. Van Slyke, of St. Paul, died

on November 23d, at the age of 54 years. Dr. Van Slyke was a graduate of the State University, class of '83, and began practice in 1886.

Upon the recommendation of the Eau Claire (Wis.) Medical Society, the county board will probably establish a sanatorium for the care of advanced cases of tuberculosis in that county.

The Northern Minnesota Hospital Association of International Falls, is erecting at Crosby a concrete building to be used as a hospital for that place, a new town on the Cayuna iron range.

Dr. H. J. Thornby, who recently located at Lake Park, has sold his practice to Dr. Winberg, of that place. Dr. Winberg has recently taken a course of post-graduate work in New York.

A case of smallpox in one of the classes of the State University the latter part of October, exposed about four hundred students and a few professors. General vaccination of students followed.

Dr. P. M. Hall, Health Commissioner of Minneapolis, addressed the N. Y. State health officers at their conference held at Buffalo, N. Y., last month. Dr. Hall spoke on the disposal of garbage.

Hibbing is building a new detention hospital that will be modern and commodious. Many another city in the Northwest has long needed such a hospital and, it is feared, will yet long need one.

Mr. James A. Patten, the noted speculator in wheat, has given the Northwestern University Medical School, of Chicago, \$200,000 for medical research, particularly for the investigation of tuberculosis.

Fergus Falls had a tag day and raised about \$700. Neighboring towns added enough to make the amount nearly \$1,000. The money will be used to buy an ambulance for the use of the two hospitals in that city.

Dr. L. G. Griffis, a recent graduate from an Indiana medical school, has begun practice in Kalispell, Mont. Dr. Griffis passed the best examination of the fifty-six candidates for certificates at the recent State Board examination.

Dr. Joseph Nicholson has sufficiently recovered to resume the management of the Northwestern Hospital at Brainerd, which has been in charge of his brother, Dr. Elmer Nicholson, for some time. The latter will remain with the hospital.

The Ramsey County Medical Society, at its last meeting, passed a resolution recommending to the City of St. Paul that the city pay its health commission not less than \$5,000 a year, in order that a recognized expert in public sanitation may be obtained for the position.

Dr. O. N. Hoyt, superintendent of the South Dakota State Board of Health, has notified the health officers of that state that infantile paralysis must hereafter be quarantined, and under the rules of the Iowa State Board of Health, which have been adopted for South Dakota.

A St. Paul daily paper says that the makers of pills find more favor with the public than the prescribers thereof, for three physicians, candidates for office in St. Paul at the recent election, were defeated while two druggists were elected. Perhaps the public desired to keep the physicians out of bad company.

The Civic League of Rochester has induced the board of education of that city to introduce medical inspection in the schools. The following physicians have volunteered to give their services free until a regular instructor shall be appointed: Drs. C. T. Granger, Christopher Graham, J. E. Crewe, W. A. Allen, and H. H. Witherstine.

Drs. Arthur Sweeney and Haldor Sneve, of St. Paul, and Dr. W. A. Jones, of Minneapolis, have plans for a sanatorium on the river-bank overlooking Ft. Snelling. A large tract of ground has been purchased, and work will begin upon a \$100,000 building as soon as a license is issued by the City of St. Paul, in whose limits the ground is located.

A second branch of the North Dakota Public Health Laboratory has been opened at Bismarck. The other branch is at Minot. Dr. Ruediger has made a marked success of the State Laboratory work, and the establishment of these branches will meet very urgent needs in parts of the state not readily accessible to the main station at Grand Forks.

The Sioux Falls (S. D.) District Medical Society and the Sioux Falls Dental Association held a joint meeting last month, and listened to papers which treated fields common to the two professions. The title of one paper, "The Dentist's Part in the Call of Public Health," is especially significant in this dawning day of medical inspection in our public schools.

Dr. Henry E. Webster, Duluth's new Commissioner of Health, promises to give that city

a progressive and effective health department. Dr. Ignatius Murphy, a recent graduate of the State University, will have charge of contagious diseases, and most of the members of the late staff will be retained. Duluth seems to be leading the entire state in her interest in matters of public health.

In a recent issue we got Dr. A. E. Hedback, of Minneapolis, marooned at Shields, Wis., and the doctor says all we said of him is not true. He admits that he was recently married, but denies that he had gone to Shields, and points out that there is no such place on the map. In view of this unquestionable fact, we freely admit that he is still practicing in Minneapolis, and under more favorable circumstances than before.

The Minnesota supreme court has decided affirmatively the case, carried up by the Minneapolis Board of Education, as to whether a school board may conduct medical inspection in the schools. As a result Dr. C. H. Keene, Supervisor of Hygiene, has planned for six physicians and six nurses to carry on the work. The physicians will be paid \$70 a month, and the nurses \$60 a month, the latter devoting their entire time to the work.

The surgeons of the Soo Line have a strong organization, and at their fourth annual meeting, held in St. Paul last month, a program was presented which would do credit to our State Association. The Association has taken an advanced step in one direction, and that is the adoption of a rule not to recommend to the road for local surgeon any physician who is not a member of the American Medical Association. Officers were elected as follows: President, Dr. Albert E. Halstead, Chicago; vice-president, Dr. Charles F. McComb, Duluth; secretary-treasurer, Dr. John H. Rishmiller, Minneapolis. The next meeting will be held in Chicago.

In St. Paul the proceeds of tag day are used to pay the expenses of nurses who devote their time exclusively to patients suffering from tuberculosis. The amount raised this year (last month) was over \$13,000, which is a remarkable sum for charitable work in a single line. Minneapolis devotes the proceeds of her tag day to the support of visiting nurses whose work is not restricted, except attendance upon cases suffering from two or three contagious diseases is excluded. The amount raised this year was over \$21,000. Many of the smaller cities of the Northwest are raising even more, in proportion to their wealth and population. Long live tag day!

UPON EXAMINATION

BY RECIPROCITY

Russ, Jesse E.....	U. of Illinois,	1907
Sherman, Adam E.....	Rush,	1903
Walters, Cassius M. C.....	Rush,	1892
Winter, John A.....	Johns Hopkins,	1906

I want to buy a plate-glass, white-enameled instrument-cabinet and a chair for nose and throat work. Give description and price. Address S. S., care of this office.

Complete physician's outfit, library, instruments, desk, safe, x-ray machine, hospital beds, etc. Best of terms to the right party. Must be Scandinavian. This is too good an opportunity to last. We can convince you in one interview. Practice of \$4,000 per annum can be assured. Address E. M., care of this office.

To any physician who purchases my office furniture and equipment for \$500 I will give my practice, worth \$4,000 per year, and will stay two weeks if desired to introduce successor. Nearest competitor 10 miles distant, not very strong. My equipment consists of operating-table, instrument-cabinet, irrigation-stand, glass-top table, washstand, two bowls, air-tank, Hardy refraction outfit, safe, roll-top desk, sectional book-case, couch, chairs, stove, small library, and a good supply of instruments. Location, Northwestern Minnesota. This is a splendid location, where the right man can easily increase the practice to a large extent, and my only reason for selling is that I am going into business and do not intend to practice medicine any longer. Address T. G., care of this office.

Doctor: If you want practical post-graduate work during fine season in the delightful city, write for particulars. New Orleans Polyclinic, P. O. Box 797, Post-graduate Medical Dept., Tulane University of La.

REPORTED FROM STATE INSTITUTIONS FOR MONTH OF SEPTEMBER, 1910

STATE INSTITUTIONS.		Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Acute Anterior Folio Myelitis	Typhoid Fever	Diarrheal Diseases of Children	Cancer	Puerperal Septicemia
Fergus Falls, Hospital for Insane	20	5	1										2		1	
Rochester, Hospital for Insane	7	1														
St. Peter, Hospital for Insane	10	3											5		1	
Anoka, Asylum	1															
Hastings, Asylum	1	1														
Faribault, School for Deaf																
Faribault, School of Blind																
Faribault, School for Feeble Minded	4	1	1												1	
Owatonna, School for Dependents																
Stillwater, State Prison																
St. Cloud, State Reformatory																
Red Wing, State Training School																
Minneapolis, Soldiers' Home	2															
Totals	45	11	2										7		2	

REPORTED FROM 72 CITIES HAVING A POPULATION OF 1,000 OR UPWARDS
FOR THE MONTH OF SEPTEMBER, 1910

CITIES.	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Acute Anterior Polio Myelitis	Typhoid Fever	Diarrheal Diseases of Children	Cancer	Puerperal Septicemia
Albert Lea	4,500	5,657	3												1		
Anoka	3,769	4,053	5	1												1	
Austin	5,474	6,489	6													1	
Barnesville	1,326	1,566	1														
Bemidji	2,183	3,800	10														
Blue Earth	2,900	2,364	2						1								
Brainerd	7,524	8,1	12				1								5		
Chaska	2,165	2,085	0														
Chatfield	1,426	1,300	0														
Cloquet	3,074	6,117	11	1	1											1	
Crookston	5,359	6,794	9				1									3	
Detroit	2,060	2,149	4														
Duluth	52,968	64,942	91	9	3	2		1				3		13	15	3	
East Grand Forks	2,077	2,489	3			1											
Ely	3,712	4,045	3														
Eveleth	2,752	5,332	15			3									4	3	
Faribault	7,868	8,279	4	1											1		
Fairmont	3,440	2,955	1														
Fergus Falls	6,072	6,692	11	1											1	1	
Granite Falls	1,214	1,340	0														
Hastings	3,811	3,810	2	1												1	
Hutchinson	2,495	2,489	4		1										1	2	
Jordan	1,270	1,311	1	1													
Lake City	2,744	2,877	3												1	1	
Litchfield	2,280	2,415	3												2		
Little Falls	5,774	5,856	3												1	1	
Luverne	2,223	2,272	1														
Le Sueur	1,937	1,842	2	1												1	
Madison	1,336	1,604	3													1	
Mankato	10,559	10,996	13												1		
Marshall	2,088	2,243	1														
Melrose	1,768	2,151	6	1													
Minneapolis	202,718	261,974	281	32	3	22	2	7	3			1	4	22	31	15	1
Montgomery	979	1,281	0														
Mantevideo	2,146	2,595	2														
Mashead	3,730	4,794	8		1	1										1	
Morris	1,934	2,003	1													1	
New Prague	1,228	1,419	3						2						1		
New Ulm	5,403	5,720	4		1												
Northfield	3,210	3,438	3													2	
Ortonville	1,247	1,612	3					1									
Owatonna	5,561	5,651	3													1	
Pipestone	2,536	2,885	0														
Red Lake Falls	1,885	1,797	0														
Red Wing	7,525	8,149	8			1									1	1	
Redwood Falls	1,661	1,806	0														
Benvenue	1,075	1,229	0														
Rochester	6,843	7,233	20	1		1									1	6	
Rushford	1,100	1,133	0														
St. Charles	1,304	1,238	1														
St. Cloud	8,663	9,422	18		1										3	3	
St. James	2,607	2,320	1														
St. Paul	163,632	197,323	185	9	1	6		9	1			5		5	23	11	1
St. Peter	4,302	4,514	0														
Sauk Centre	2,220	2,463	2												1		
Shakopee	2,046	2,069	2													1	
Sleepy Eye	2,046	2,312	0														
South St. Paul	2,322	3,458	4	1				1								1	
Stillwater	12,318	12,435	5		1	1										1	
Thief River Falls	1,819	3,502	3	1													
Tower	1,366	1,340	1														
Tracy	1,911	2,015	3											2			
Virginia	2,962	6,056	24			2			2					5	3		
Wabasha	2,528	2,619	0														
Warren	1,276	1,640	8													1	
Waseca	3,103	2,838	3	1	1												
Waterville	1,260	1,383	2														
West St. Paul	1,830	2,100	1														
Willmar	3,409	4,040	1														
Windom	1,944	1,884	0														
Winona	19,714	20,334	16	1		2		1							2	1	
Worthington	2,386	2,276	4					1									

*No report received. Health officer not doing his duty.

REPORTED FROM 65 VILLAGES HAVING A POPULATION OF 1,000 OR UPWARDS
FOR THE MONTH OF SEPTEMBER, 1910

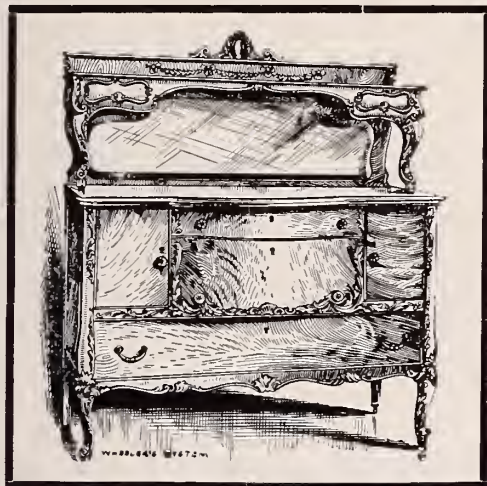
VILLAGES.	Population of U. S. Census of 1900	Population of State Census of 1905	Total Deaths	Tuberculosis of Lungs	Other Forms of Tuberculosis	Pneumonia	Bronchitis	Diphtheria	Scarlet Fever	Measles	Smallpox	Whooping Cough	Acute Anterior Folio Myelitis	Typhoid Fever	Diarrheal Diseases of Children	Cancer	Puerperal Septicemia
Ada	1,253	1,515	0														
Adrian	1,258	1,184	0														
Aitkin	1,719	1,896	1														
Akeley		1,636	0														
Alexandria	2,681	3,051	5	1													
Appleton	1,184	1,321	1												1		
Belle Plaine	1,121	1,301	1													1	
Benson	1,525	1,766	3														
Breckenridge	1,282	1,850	11						1								
Buffalo	1,040	1,124	0														
Caledonia	1,175	1,405	0														
Canby	1,100	1,505	2												1		
Cannon Falls	1,239	1,480	5														
Cass Lake	546	1,062	*														
Chisholm		4,231	6		1	2		1							2		
Dawson	962	1,056	1														
Delano	967	1,023	0														
Fosston	864	1,000	1														
Frazee	1,000	1,146	3										2		1		
Glencoe	1,780	1,805	0														
Glenwood	1,116	1,718	0														
Graceville	856	1,032	1														
Grand Rapids	1,428	2,055	6												3		
Hallock	805	1,014	0														
Hibbing	2,481	6,566	19												7	2	
Jackson	1,756	1,776	0														
Janesville	1,254	1,205	0														
Kasson	1,112	1,049	2	1													
Kenyon	1,202	1,252	1	1													
Lake Crystal	1,215	1,231	0														
Lanesboro	1,102	1,041	0														
Long Prairie	1,385	1,256	3														
Madelia	1,272	1,290	1														
Milaca	1,204	1,319	0														
Mountain Lake	959	1,063	3														
North Mankato	939	1,129	0														
North St. Paul	1,110	1,400	4												1		
Olivia	970	1,019	0														
Osakis	917	1,056	0														
Park Rapids	1,313	1,719	4												2		
Pelican Rapids	1,033	1,095	2												1		
Perham	1,182	1,366	*														
Pine City	993	1,092	0														
Plainview	1,038	1,140	1														
Preston	1,278	1,320	1														
Princeton	1,319	1,704	*														
Rush City	987	1,041	0														
Rushford	1,062	1,040	1														
St. Louis Park	1,325	1,491	4		1												
Sandstone	1,189	1,589	6			2						3					
Sauk Rapids	1,391	1,552	4			1											
Scanlon		1,122	0														
South Stillwater	1,422	1,572	0														
Springfield	1,511	1,546	2														
Spring Valley	1,770	1,573	2	1											1		
Staples	1,504	2,163	0														
Two Harbors	3,278	4,402	8	1	1			1							4	1	
Wadena	1,520	1,868	3										1		1	1	
Wells	2,017	1,814	*														
West Minneapolis	2,250	2,530	3														
Wheaton	1,132	1,346	1														
White Bear Lake	1,288	1,724	3	1													
Winnebago City	1,816	1,553	*														
Winthrop	813	1,031	1														
Zumbrota	1,119	1,129	2														
State Institutions			45	11		2									7		2
Other parts of State	1,012,328*	1,085,886	832	44	9	30	4	13	4			10	37	23	189	40	2
Total for State	1,751,395	1,979,658	1859	124	25	80	9	35	14			22	46	102	315	102	4

*No report received. Health officer not doing his duty.

147 Still births and premature births, not included in above totals.

Your Credit Is Good at The New England!

THE MOST SATISFACTORY HALF PRICE SALE THE NEW ENGLAND EVER EXPLOITED



THE NEW ENGLAND'S SEMI-ANNUAL HALF PRICE SALES OF MANUFACTURERS FINE FURNITURE SAMPLES, are recognized as Supreme Events by the Housekeepers of the Twin Cities and The Great Northwest.

OUR FORTY-EIGHTH SALE has just begun and with a rush that bids fair to eclipse any similar previous sale.

OWING TO THE COMPREHENSIVENESS and varieties of the offerings, individual descriptions can hardly be attempted, suffice it to say that if you need anything in furniture, to complete your furnishings, or furniture for Gift Making; the incidental Saving of One Half, makes a condition quite ideal from the purchasers standpoint.

NEW ENGLAND FURNITURE & CARPET CO.

5th St., 6th St. and 1st Ave. South.

Minneapolis

Complete Furnishers of Homes, Offices, Hotels,
Clubs, Churches, Theaters and Public Institutions.

PUBLISHER'S DEPARTMENT

MUDLAVIA

The rest and bath treatment of Mudlavia must be known to all of our readers, and yet many of them may not know how really valuable these treatments are, and so we call their attention to the announcement of the institution which appears in our advertising pages, and commend its careful reading.

The institution is a very large one, and its buildings are all that unlimited means can make them.

Complimentary entertainment will be extended to physicians who go to Mudlavia (Kramer, Ind.) for investigation, and it is worth while.

GOOD NEWS FROM THE YOUTH'S COMPANION

We have had to make The Youth's Companion larger to get in all the good things that Companion readers ought to have. The added amount would make four hundred pages of standard magazine size and print; but we have kept the price just the same—\$1.75 for the fifty-two weeks of 1911, and all the issues for the rest of this year free from the time you send in your subscription.

We would like to tell you what is in store for Companion readers next year. We cannot do it here, though; there is not room. But send us your address on a postal card, and we will send you the beautiful Prospectus of The Companion for 1911, announcing many new features, together with sample copies of the paper.

We think you will agree, when you have read them, that there is no other paper that gives quite so much of such a high quality as The Companion.

The new subscriber receives a gift of The Companion's Art Calendar for 1911, reproducing in thirteen colors and gold a beautiful water-color garden scene.

Address The Youth's Companion, 144 Berkeley St., Boston, Mass.

AN UNCONVENTIONAL COUGH SYRUP

There are "cough syrups" without end. Some of them, it is needless to say, have little or no therapeutic value. Conversely, there are some that no physician need hesitate to prescribe. One of these—Syrup Cocillana Compound (P. D. & Co.)—is so exceptional in many particulars as to be worthy of special mention just now, when coughs are so plentifully in evidence. By its name no one would recognize it as a preparation for "coughs" and "colds," and this, in connection with its general efficiency, constitutes one of its chief claims to distinction. It is a product which the layman knows nothing about. It does not encourage counter-prescription or self-medication. It was designed especially with reference to the needs of the prescriptionist.

The formula of Syrup Cocillana Compound, which of course is plainly printed on the label, is quite unusual. Let us briefly consider its components: Euphorbia pilulifera—serviceable in the treatment of chronic bronchitis and emphysema; wild lettuce—a mild and harmless narcotic, useful in spasmodic and irritable coughs; cocillana—valuable expectorant, tonic and laxative, exerts an influence on the respiratory organs

similar to that of ipecac; syrup squill compound—serviceable in subacute or chronic bronchitis, as an expectorant, and as an emetic in croup; cascara—the bitter glucoside of cascara sagrada, useful for its laxative action; heroin hydrochloride—a derivative of morphine and extensively prescribed in the treatment of cough, especially of bronchial origin; menthol—stimulant, refrigerant, carminative and antiseptic, serviceable in coughs of pharyngeal origin.

Syrup Cocillana Compound would seem to be worthy of extensive prescription.

NEURONHURST

Dr. W. B. Fletcher's Sanatorium at Indianapolis, Ind., bears the very appropriate name of Neuronhurst. Established in 1888 by Dr. W. B. Fletcher, it has been under the continuous charge of Dr. Mary A. Spink, first as associate and since as president.

The building is large and commodious, and was erected after its conductors had gained sufficient experience to enable them to design a well-nigh perfect house for the care of the special cases they treat.

Neuronhurst is primarily a sanatorium for mental cases and for such diseases as arise from organic or functional derangement of the brain and spinal cord.

The treatment is largely the scientific use of electrotherapy, hydrotherapy, massage, and special diet.

Cases of nervous strain, inebriety, and the drug-habit, needing rest and temporary relief are specially solicited.

Correspondence from physicians is solicited.

THE SLEEPING TENT

The sleeping-tent or window-tent is a most ingenious invention for furnishing a means of sleeping out of doors without exposing the body to a degree of cold which can hardly be overcome in this climate.

This device is well-nigh indispensable to a large class of patients to whom physicians recommend the pure-air treatment.

The American Tent & Awning Co., of Minneapolis, makes a high-grade window-tent and sells it at a very moderate price. Their announcement, illustrated, appears in our columns, and the company is perfectly reliable. Why not ask them for their tent circular?

ALLISON'S

If *Allison* did not stand for the best physicians' and surgeons' tables, cabinets and furniture, we should not expect our readers to know what the heading of this item means. When we speak of toilet soap we think of Pear's, not simply because it is so much advertised, but because it is so excellent; and when we think of all that is excellent in tables, cabinets, etc., we think of Allison's; and we write this simply to call attention to the fact that Allison has something to say to our readers in their advertisement.

REMOVED TO

621 FIRST AVENUE SOUTH

where a complete line of Surgical Instruments, Dressings and

Hospital Furniture have been added to our extensive

line of X-Ray, Electro Therapeutic and

Physician's Office Apparatus.

We solicit your business for the above goods and assure you that

all orders will receive prompt and careful attention.

LEWIS-PAINTER CO.

F. BUCHSTEIN CO.,

610 FIRST AVENUE SOUTH,
MINNEAPOLIS, MINN.



THE ONLY ESTABLISHMENT IN THE NORTHWEST **Manufacturing**

VULCANIZED FIBER LIMBS
ORTHOPEDIC APPLIANCES of every kind and description
ELASTIC SURGICAL APPLIANCES like stockings and abdominal supports
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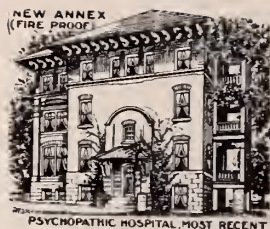
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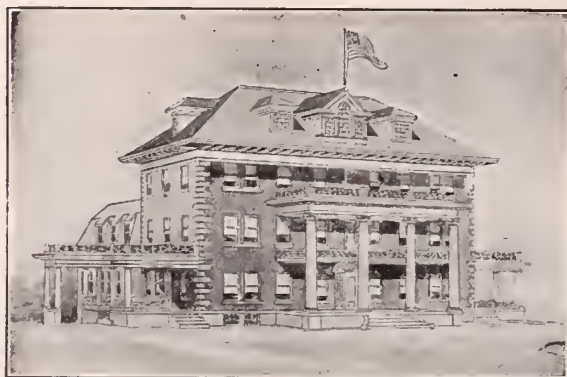
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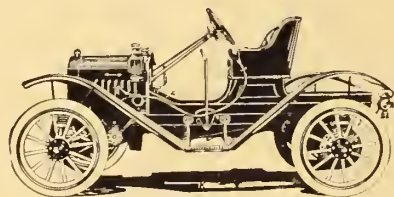
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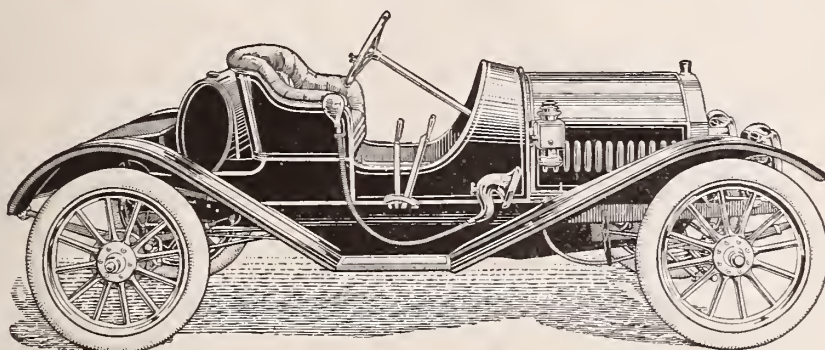
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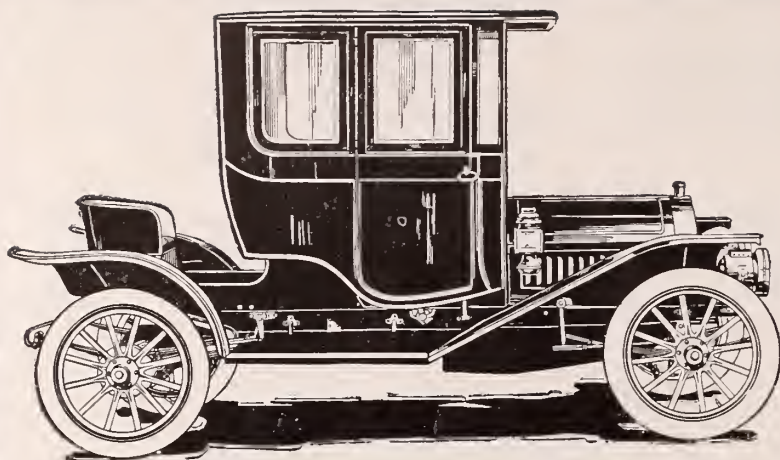
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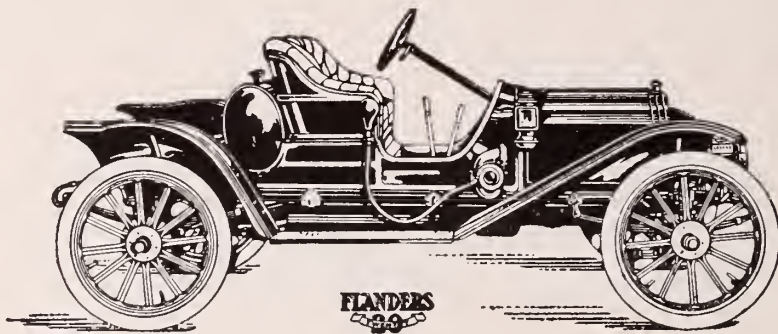


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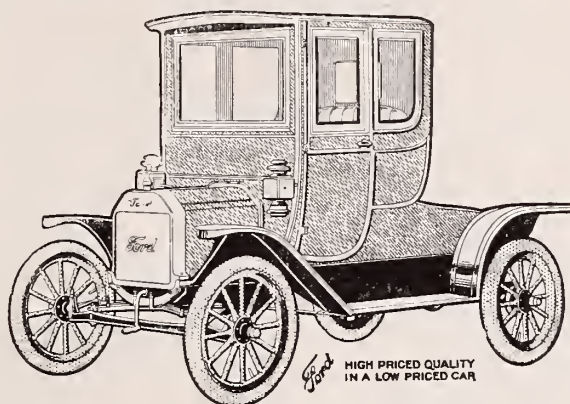
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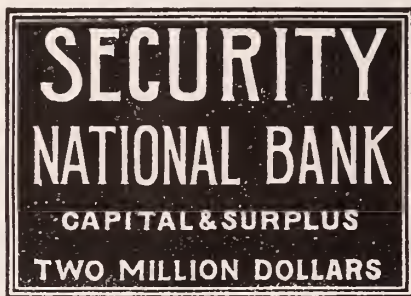
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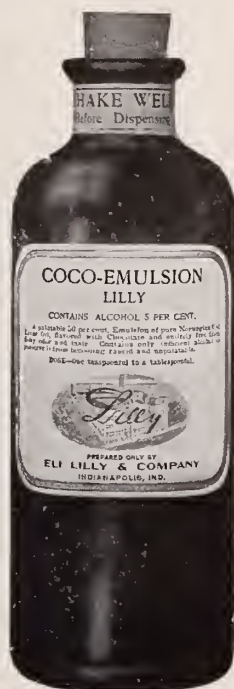
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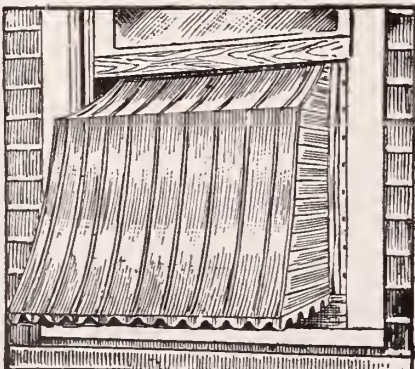
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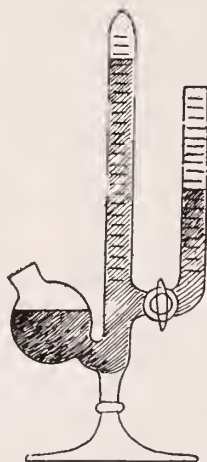
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ESTABLISHED 1870

PUBLISHED TWICE A MONTH

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1910

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VOL XXX

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No. 24

CYSTITIS AND PYELOCYSTITIS IN INFANTS AND YOUNG CHILDREN*

BY WALTER REEVE RAMSEY, M. D.

Clinical Professor of Diseases of Children, University of Minnesota

ST. PAUL

This condition, although common, has not, up to the present time, been recognized by the profession at large, especially in this country. The most noteworthy publication in English on this subject was made by Box, which appeared in the *London Lancet* in 1908, and was entitled, "Bacterial Infections of the Urinary Tract in Childhood." It is to Escherich of Vienna, however, that we are indebted for having first called attention to the frequent occurrence of cystitis in infants. In the sixty cases observed by him, he was able to demonstrate the colon bacillus alone or mixed with other bacteria in fifty-eight cases. Soon after this publication, Finkelstein and others demonstrated that colon-infection of the urinary tract was a very common condition in infants. Göppert found that from one to two and a half per cent of the infants, in his clinic, suffered from a colon infection of the urinary tract. These authors found that the infection did not limit itself to the bladder, but more often involved the pelvis of the kidney, and sometimes the kidney itself.

Besides the colon bacillus there are many other organisms capable of producing cystitis and pyelitis. Some of these organisms are streptococcus, staphylococcus albus, gonococcus, proteus, bacterium lactis aërogenes, bacillus mesentericus, bacillus pyocaneous, diphtheria, tu-

bercle, and typhoid bacillus. Of ten cases observed by Mellen, eight were due to the colon bacillus, the other two to the staphylococcus albus. It would appear that in infants there is a much greater likelihood of bacteria setting up an inflammatory process than in older children or adults. Since the colon bacillus is by far the most frequent source of infection of the urinary tract in infants, this paper will deal with that form of infection.

What, then, is the source of this infection? The great preponderance of females, 90 to 95 per cent suffering from this condition, has led to the supposition that the infection results directly from contamination from the rectum. The close proximity of the urethra to the anus, the short urethra of the female, and the frequent contact with the rectal discharge, together with the habit of wiping with the diaper from behind forward lend a very plausible explanation.

Box found that cases of colicystitis and bacterurea were much more common than cases in which the signs of a pyelitis were present. He also noticed the colon bacillus present in the urine of children suffering from thread-worms. The ova and the worms themselves were in some cases found in the bladder. "The organism being motile further facilitates its progress in the urinary tract, so that it is possible to gain access to the pelvis of the kidney without urinary stagnation being present." The colon bacillus grows preferably in alkaline or neutral media,

*Read at the 42d annual meeting of the Minnesota State Medical Association, held at Minneapolis, Oct. 5 and 6, 1910.

but can also grow in acid urine. "The acidity of the urine is inimical to most other forms of bacteria, hence the colon bacillus is often found in pure culture." That the infection may occur through the blood-stream and be eliminated by the kidney is thought by some observers to be possible. That this is not a common source of infection has been proven by Escherich and Wunchheim, since repeated examinations of the blood were almost always negative.

Wreden demonstrated the possibility of the colon bacillus wandering through the rectal wall and passing to the bladder-wall. This is made possible by some injury to the rectal epithelium. The great frequency with which, in many cases, a cystitis followed close upon the heels of an acute colitis, is at least significant. Escherich believes that a certain number of infections, especially in boys, occur in this way.

That the colon bacillus may be present in the bladder without any apparent inflammatory reaction, I have demonstrated in a number of cases. The acute inflammatory symptoms are induced in these cases by a general lowering of the vitality, or by local irritation produced by toxic products eliminated by the urine. The frequency with which cystitis and pyelitis follow or complicate the acute infectious diseases, lends weight to this view. I have also seen relapses follow exposure or indiscretions in diet.

Box believes that incontinence, especially in girls, is frequently due to a bacterurea and a mild colicystitis. I have recently demonstrated the colon bacillus to be constantly present, together with some pus-cells, in the urine of a young girl suffering from a chronic incontinence.

Pfoundler demonstrated that the blood of these cases, especially those suffering from an acute infection with fever, will produce a clumping of a culture of colon bacilli, just as the blood of a typhoid case after the manner of Widal produces clumping of the typhoid bacilli.

That the antitoxine produced in the body against the colon bacillus is of a transient nature, is demonstrated by the great disposition of these cases to relapse.

All of my cases were females. Some of these occurred in my own private practice, but the majority were seen with other physicians in consultation.

The ages of the patients varied from five months to eight years.

Only two of the cases were above four years. Eight cases were one year and under.

Fourteen cases were between one and two years.

Three cases were between four and eight years.

Of the eight cases under one year, three were on the breast at the time of the attack. Of the whole number, sixteen cases had had the breast, either in whole or part, during the first year. Nine cases either followed or complicated an acute intestinal disturbance. In eight cases there were more or less symptoms pointing to the bladder. These symptoms in all cases had been overlooked by the attendants.

In the other seventeen cases there were practically no symptoms pointing to the urinary tract; and the diagnosis was made wholly by exclusion and by examination of the urine.

In some cases the urine was moderately turbid, and in others the sediment, consisting largely of pus, amounted to two to three per cent of the urine passed. In Case 3, a girl of eight years, who had had intermittent attacks of fever for several weeks, some specimens of urine were perfectly clear, showing under the microscope scarcely a pus cell. This condition existed sometimes for a whole or part of one day, when suddenly the next specimen would contain pus to an amount of one to two per cent of the amount passed. Such a condition must have been purely a pyelitis, there being little irritation of the bladder at any time. During the intervals when the urine was clear there was marked tenderness upon pressure over the left kidney.

Cases 22 and 24 followed directly an attack of measles. In Case 22, twenty-four hours after the temperature from the measles had reached normal, there was a sudden chill, and the temperature rose to 105°. There was no discomfort except that the child was extremely nervous. Within three hours the temperature had again reached normal. It remained practically normal during the night; and the following day, at about the same time as on the previous one, the temperature rose again to 105°, and within a few hours again reached normal. This was repeated on three successive days, and in the meanwhile the urine was examined and found at first to contain only a very few pus-cells and some motile bacteria. Two days later, the urine was loaded with pus.

In Case 24 the temperature at the end of ten days after the onset became normal for 24 hours. At the end of this time the temperature rose to 103°, and after 24 hours both ears began to discharge. The temperature, however, in spite

of the free drainage, persisted so that at the end of eighteen days it rose to 105° , and there was some diarrhea with straining, and the skin was extremely pale. There were no symptoms pointing to the urinary tract, unless the straining was due to cystitis. An examination of the urine revealed a great amount of pus with many pus-casts, so that there was also an involvement of the kidney itself. At the present time the urine is clearing up, and after three weeks the temperature, the doctor informs me, is practically normal.

Another case occurred during the course of a bronchopneumonia, which followed close upon an attack of whooping-cough. This case, a breast baby of eleven months, had bad stools. It afterwards developed that the mother was already three months pregnant. In this infant the temperature persisted after all evidence of the pneumonia had passed. There was evidence of extreme discomfort as the baby cried almost incessantly and sat swaying its body from side to side and backward and forward for hours at a time. When the nurse was told to watch her closely in regard to the passage of urine, she found that a little urine was expelled every few minutes with much straining, and when examined it was found to contain a large amount of pus and motile bacteria.

Symptoms and course.—In many cases there are no symptoms pointing directly to the urinary tract. This is particularly true when the pyelitis is the primary condition. In these cases fever is often the only constant symptom. This may be exceedingly high, reaching 105° or even 106° . The temperature may remain high only for a short time, one to two hours, and then drop quickly to normal or nearly normal, when, after a few hours, it may again rise to a high point. During the exacerbation the infant is usually very restless, and there may be vomiting and intense pallor of the skin. During the interval when the temperature is down, the infant may seem well, take its food, and play as if perfectly normal. In other cases that have gone unrecognized for some time, the condition assumes the character of a typhoid, and, in fact, it is many times treated as such. The fact that many cases are preceded or even attended by offensive stools has further encouraged this mistake. In cases of pyelitis, there is also not infrequently tenderness in the epigastric region.

Case 5.—Baby C, aged 4 years; at breast three months. In one year she had whooping-cough and pneumonia, from which she apparent-

ly entirely recovered and was well afterwards for one year. Six months ago she had an attack of what was diagnosed as typhoid fever. The fever ran about four weeks, but was not severe. After that she was fairly well for several months. One month ago she had frequent urination with fever, which had persisted until the time I saw her. The urine was cloudy, with a dense precipitate, which under the microscope showed many pus-cells and motile bacteria. An examination of the blood gave a negative Widal.

Case 14.—Baby P, aged 13 months; normal birth; breast-fed. Has had no infectious diseases; at nine months had slight digestive disturbance, from which she soon recovered. Six days before I saw her she had high fever, 104° , which has persisted, ranging from 100° to 104° . The baby lay in a listless condition. The tongue was coated, and there was little appetite. The skin was very pale and at times cold. The stools were slimy but not otherwise bad in character. The lungs were normal, except slight roughness in breathing in the left side under the scapula. The heart was normal but rapid. The abdomen showed some tenderness on pressure over the left epigastric region. Some urine, secured by catheter, was turbid and contained much pus and motile bacteria. She was put upon urotropine with plenty of water. Her doctor informed me that after a couple of weeks the temperature disappeared, and the urine gradually became normal.

In other cases the symptoms take on a pronounced nervous type. So severe are these symptoms that I have seen several cases where a meningitis was thought to be present. There may be delirium and at times opisthotonos. These symptoms are more liable to occur in infants where there is an acute cystitis with severe tenesmus, which may and usually does go entirely unnoticed. The symptoms most noticed are those of a general nervous character. Cases of severe cystitis which occur coincident with a colitis may lead to a mistaken idea as to the extent of the intestinal involvement, owing to the straining and excessive fever present.

Case 10.—Sept. 10, 1908. Baby W., Fargo, N. D.; female, aged 16 months; at breast for ten months; had always been well until about two weeks ago, when she had vomiting and diarrhea with considerable temperature. She was taken off of milk for a few days and apparently completely recovered. Milk was resumed when the stools became bad again. During the past two days she has been apathetic and lies with the eyes closed; the skin is very pale; the breathing

is deep and stertorous, and the temperature and pulse are high. At intervals there are spasmodic attacks; the head is drawn back, together with a general muscular rigidity; and the eyes turn upward so that only the sclera can be seen. After a short interval the muscles again relax, and the infant sinks into a stupor from which she can be aroused with difficulty. She takes little if any food. Upon examination I found none of the cardinal symptoms of a meningitis. The reflexes were, however, much exaggerated. Upon very close observation for some time, the diaper having been removed, it was noticed that every time she had one of these "attacks" she passed urine, with much straining. A little of the urine was secured and examined microscopically, when a few pus-cells and many motile bacteria were found to be present. The urine was clear, amber, and acid in reaction.

As the doctors were rather sceptical that so small a showing in the urine could produce such profound nervous symptoms, I made a lumbar puncture. The serum was clear, and upon examination and incubation it was found to be sterile. After two or three days upon urotropine the baby had entirely recovered.

Case 20.—January, 1910. Baby N., aged 10 months; female; always well until one week ago when she had high fever with green and offensive stools, and there was much prostration. The infant was put upon greatly restricted feeding, and the stools and temperature gradually improved. Yesterday without apparent cause there was an acute exacerbation of the symptoms, the temperature was very high, and the infant lay in a semistupor, moaning at intervals, and at these times there was much straining, so that the rectum protruded. I saw the infant in consultation on the evening of the second day after the acute exacerbation. Upon observation I found that, with each attack of tenesmus, which occurred every few minutes, there was a small amount of urine passed, after which the straining persisted and the rectum protruded slightly. Sometimes a small amount of mucus or fecal matter was passed. An examination of the urine, which was turbid and acid in reaction, showed many pus-cells and motile bacteria. The doctor informs me that this case was rather slow in convalescing, but that the urine cleared up in the course of a few weeks. That the acute exacerbation was due to the cystitis there can be no doubt.

In cases where there are marked nervous symptoms it is always well to examine the ears,

as well as the urine, for symptoms pointing to the ears may be present as a result of a cystitis without any middle ear involvement. (Case 1.) In three cases I have seen a co-existing otitis media. (Cases 21, 22, 24.)

In many cases the infection runs a chronic course with acute exacerbation at irregular intervals. During these exacerbations the symptoms are those of one or more of the forms already described. One of these (Case 5) had been treated for typhoid fever several months previously to my seeing her. At the time I saw her she was running a fever not unlike a typhoid, but an examination of the urine revealed many pus-cells and colon bacilli. An examination for Widal was negative. Another case (No. 14) had been treated for recurrent attacks of grip. A pretty constant symptom in these chronic cases is pallor of the skin, which assumes a rather muddy color. There is usually some greater frequency of urination than normal, and in some the condition passes for simple incontinence (Case 25). In these cases there is usually some redness about the genitals, and the mother will inform you that the infant is constantly chafed. I have observed that many of these chronic cases are habitually constipated.

Exacerbation in these chronic cases is induced by indiscretion in diet, "taking cold," or any condition tending to lessen the general vitality, the protective antitoxine in the blood being evidently rather feeble.

The pathological changes in the mucous membrane are, according to Langstein, those of an acute catarrh, manifested by redness and infiltration and swelling of the mucous membrane, which is covered with mucus, containing many pus-cells and bladder-epithelium. In chronic cases there are a thickening and pouting of the mucous membrane. In extremely severe infection there may be ulceration and hemorrhage.

Diagnosis.—The routine examination of the urine in all cases will reveal the cause of many otherwise obscure fevers in infants. The appearance of the urine is not to be depended upon in making a diagnosis, as many times it is quite clear, of a normal color, and, usually, acid in reaction. Where there are many bacteria, the color is turbid; and where pus in any amount is present, there is a precipitate. The urine should always be thoroughly centrifuged when clear, as in cases of primary pyelitis there may be only an occasional pus-cell present at first.

In cases of bacterurea of long standing there

may now and then be acute exacerbations, which after a few days or weeks subside, so that the temperature is normal, and there is little irritation. In these cases there is usually some local reddening about the meatus, and the urine always contains bacteria and a few cells.

In these chronic cases there may be extensive desquamation of bladder-epithelium, as occurred in one of my cases (No. 14).

The presence of many tube-casts indicates, of course, an involvement of the kidney itself. It is a safe rule in all obscure fevers, especially in female infants, to examine the urine, not chemically alone, as there may be hardly a trace of albumin, but, after thoroughly centrifuging, microscopically as well, since not infrequently the finding of only an occasional pus-cell with the presence of motile bacteria and an acid urine will give the key to the existing pyelitis.

Prognosis.—Of the 84 cases observed by Göppert, 10 died, i. e., 12 per cent. Of my 25 cases none have as yet succumbed, but in Case 24, where there is undoubtedly some involvement of the kidney itself, the ultimate prognosis is doubtful.

In cases of mixed infection where, upon the slightest provocation, recurrence of the pyelitis occurs, the ultimate prognosis must also be doubtful.

In most cases of colon infection which are early recognized and treated, the prognosis is good, and recovery usually occurs in from one to four weeks.

Treatment.—The giving of large amounts of alkaline water is of the first importance. Frequently there is great thirst attending the fever, and the infant will take large amounts of water. The diet should be of a bland character. Urotropine and salol in full doses are the two drugs giving the best results. They may be given alone or combined in stubborn cases. In an acute cystitis where there is much desquamated epithelium with severe tenesmus, washing the bladder with a one-half per cent solution of silver nitrate and immediately neutralizing it with salt solution, gave marked and prompt relief in one or two severe cases. As a means of prevention, rectal discharges should be removed as soon as possible, and the genitals, especially in female infants, cleansed by sponging from before backward, as it is easily seen how fecal matter could be easily introduced into the mouth of the urethra when the above process of cleansing is reversed. Since constipation was constant in many of my cases, this should be at once corrected.

The general condition of the patient must be carefully augmented as a purely local treatment will be disappointing, and relapse will be certain if the general vitality remains below par.

CASE HISTORIES

July, 1902.

CASE 1.—E. C., female, aged 6 months; fed on malted milk since birth. History, uneventful until one week ago, when it had offensive stools. Several days later, the temperature was much elevated at times, and the child had violent attacks of crying as if in pain. During these attacks the mother noticed that the head was retracted, and the child put her hands to her ears. Thinking there might be an otitis, I had an aurist examine the ears, and the result was negative.

The urine was turbid, and acid in reaction, with many pus-cells. At this time I knew little about the colon infections of the urinary tract, and the child recovered promptly on a buttermilk diet without medication.

September, 1906.

CASE 2.—V. W., female, aged 16 months. The mother has noticed for some time that the urine is cloudy, and she has had great difficulty in preventing excoriation of the skin around the genitals. The temperature is frequently above normal. The child is pale and flabby, eats badly, and the bowels are habitually constipated. Examination shows the urine turbid, and acid in reaction, with a trace of albumin and many pus-cells and motile bacteria. The child was given water freely with full doses of urotropine, and the urine rapidly became normal. The general condition also markedly improved.

April, 1907.

CASE 3.—E. M., female, aged 8 years; has always been highly neurotic. History up to one month ago was uneventful. The child was much undersized and poorly nourished.

About one month ago there was loss of appetite, and at times the temperature was high. No regular record had been kept. There was some discomfort upon urination, and at times the urination was frequent. There was also some tenderness over the bladder, and at times there was pain in the region of the left kidney. The temperature and loss of appetite had been so persistent that the father, who was an oculist, had thought of a probable typhoid.

Examination revealed a temperature of 102° and marked tenderness over the bladder and left epigastric region. The urine was cloudy, and upon standing gave a dense precipitate. This precipitate proved to be pus. Some specimens proved to be perfectly clear, showing under the microscope only an occasional pus-cell. The next specimen would perhaps be densely turbid, precipitating upon standing sometimes an amount of pus equal to one-fourth of the amount of urine passed.

Upon full doses of urotropine with a liberal amount of alkaline water, the symptoms subsided, and the urine became normal. During the following two years there were several relapses, which, however, promptly cleared up.

CASE 4.—E. T., female, aged 2 years; breast-fed until 16 months old. History was uneventful until two

months ago. At this time pale, the patient lacked appetite, slept badly, and cried when moved. There had been nothing to call attention to the urinary tract except that the skin in the region of the genitals was excoriated. The temperature varied from normal to 104°.

The urine slightly turbid and acid with a trace of albumin, and under the microscope there were many pus-cells and motile bacteria. Placed upon urotropine and proper diet, the general nutrition rapidly improved, and the urine became normal.

April, 1908.

CASE 5.—B. C., female, aged 4 years; breast-fed for three months. At one year she had whooping-cough and pneumonia, and during the following two years was normal. Seven months ago she had an attack of fever, which was diagnosed as typhoid. The fever was of an intermittent character and lasted several weeks. Since that time the child has not been well nourished and has been pale. Four weeks ago she began having frequent urination, but no fever. One week later, the temperature rose to 104°, and the frequent and painful urination persisted. Examination of the urine at this time revealed much pus and motile bacteria. She was given urotropine in full doses, and her physician informs me she rapidly recovered.

July, 1908.

CASE 6.—E. P., aged 13 months; breast-fed for two months. Baby is pale with flabby musculature. The stools are generally pale and constipated, but are now loose. Baby cries much and has a temperature varying from normal to 101°; and this has persisted for several weeks. The urine is turbid and acid, with a trace of albumin, and many pus-cells and motile bacteria. Under proper modification of diet with liberal amounts of water and full doses of urotropine, the symptoms subsided, and the urine became normal.

October, 1908.

CASE 7.—E. W., female, aged 18 months; breast-fed for nine months. Baby has never taken cow's milk well and has had several attacks of dyspepsia since being weaned. Five weeks ago she had a severe attack of indigestion attended by green, foul-smelling stools. The temperature was 102° at the onset. With the patient upon a "starvation diet" for 36 hours, the temperature became normal; and after a few days on gruel, the former diet was gradually resumed. Since then the stools have been good, but the baby has remained rather pale.

Yesterday the temperature suddenly became elevated, and the baby was very restless. Castor oil was given, the mother believing that the intestinal tract was the cause of the fever. The stools were, however, normal, and the temperature persisted. An exhaustive physical examination revealed nothing to occasion the fever, which was, on examination, 104°. There were no symptoms referable to the urinary tract. Urine on examination was neutral and clear, with no albumin, but many motile bacteria and a considerable number of pus-cells. Placed upon urotropine, the symptoms rapidly subsided. Since that time this infant has had several relapses during which time much pus was to be found in the urine.

August, 1908.

CASE 8.—Baby E., female, aged 3 months; breast-fed for two weeks then put on modified milk, which

it took badly. It has since had a variety of foods, none of which it has been able to digest well, and the stools are green and frequent.

The temperature during the past week has been high at times, but no record had been kept by the attending physician. Upon examination the temperature was 104.4°. The baby screamed almost constantly as if in pain. Close inspection revealed a small amount of urine passed with much straining, being frequently attended with some bowel movement every few minutes. Examination of the urine revealed many pus-cells and motile bacteria. The reaction was acid.

A wet-nurse was secured, and the baby was given urotropine in frequent small doses. Recovery was slow, but uninterrupted.

August, 1908.

CASE 9.—Baby K., aged 5 months; breast-fed for three months. Has had difficult digestion since being weaned, the stools being frequently green and curdy. After modifying the milk, the stools became normal, but there still continued to be some elevation of the temperature. An examination of the urine revealed a considerable number of pus-cells, together with many motile bacteria. Under urotropine the temperature became normal within a week, and the pus-cells and bacteria disappeared from the urine.

September, 1908.

CASE 10.—Baby W. (Fargo, N. D.), female; breast-fed for 10 months. She was always well until two weeks ago, when she had vomiting and diarrhea. She was taken off of milk for a few days, and the condition became apparently normal. One week ago, the milk was resumed, and the stools became bad, and there was considerable temperature. Two days ago the baby began having "attacks" in which the eyes would roll up, the head was retracted, and at times there was slight opisthotonos. After a short time, one to two minutes, the muscles relaxed and the child would sink into a profound stupor. The "attacks" occurred at irregular intervals of from 20 to 30 minutes.

The nervous disturbance was so profound that the attending physician, as well as the father, who was himself a physician, thought that a meningitis might be present.

When I saw the child the condition was as described above. The cardinal symptoms of meningitis, however, were mostly absent. Upon close examination, the diaper having been removed, I found that with each "attack" she passed a small amount of urine with much straining. Some urine was secured and examined microscopically. The examination revealed a small number of pus-cells and many motile bacteria. The reaction was acid.

The attending physicians were skeptical that such profound nervous symptoms could be produced by a cystitis, so a lumbar puncture was made. The fluid was clear and sterile. Under urotropine the patient was apparently well in a few days.

September 16, 1908.

CASE 11.—G. B., female, aged 8 years; breast-fed for one year. Child has been well, with the exception that she has attacks of vomiting at more or less regular intervals. She is extremely nervous (the mother is a neurasthenic), and has some incontinence of urine, which is at times greatly exaggerated. Physical

examination, negative. Urine shows a trace of albumin and many pus-cells and motile bacteria.

October 6, 1908.

CASE 12.—V. J., female, aged 1 year; breast-fed for six weeks. The baby had condensed milk for three months and modified milk since. The stools have been pale and constipated (soap stools), and the urine ammoniacal. Two days ago she had an attack of vomiting and diarrhea with green stools. The temperature was 100°. With the baby upon water for 24 hours, the stools became normal, but the temperature increased, being on the second day 102.5°. Examination of urine revealed many pus-cells and motile bacteria.

July, 1908.

CASE 13.—B. H., female, aged 16 months; breast-fed for 11 months. It was then given whole cow's milk and had severe indigestion with convulsions. The stools have been very constipated and of the fatty soap character. The baby is pale, and the general musculature flabby. Upon a proper modification of the diet, the stools became normal, and the general condition of the patient improved.

Two months later she had an attack of fever without any apparent cause. The urine was acid with pus-cells and bacteria in abundance. The condition promptly cleared up under urotropine.

August 28, 1909.

CASE 14, 1909.—B. P., female, aged 13 months; breast-fed one year. At 9 months the child had a slight digestive disturbance, from which she soon recovered. Six days ago she had a high fever, 104°. The temperature has since ranged between 100° and 104°. The stools, her physician says, have been good. The child, when seen in consultation, was listless, and the skin was pale and rather cold. An exhaustive physical examination revealed nothing to account for the continued fever. Typhoid had been suspected. Some urine was secured and showed a great number of pus-cells and many bacteria. Under urotropine the condition cleared up, her physician informed me, after two to three weeks.

November, 1909.

CASE 15.—L. S., female, aged 3 years; breast-fed for one year. She was always well until a few months ago, when she had an attack of fever, which her physician thought was grip. Within a few weeks she had three such attacks.

During the past 24 hours the child has cried almost constantly as if in pain, and there has been considerable fever. The mother has noticed that she has passed urine frequently, but she has not complained of pain in the region of the bladder. When examined, the temperature was 104°, and the pulse 140. The skin was very pale and cold. Physical examination revealed nothing to account for the fever. The urine was acid, with a trace of albumin. Pus-cells and squamous epithelium were in abundance.

Under urotropine the temperature became normal, and the urine cleared up promptly. Since then there have been two rather severe relapses, which cleared up promptly under treatment.

November, 1909.

CASE 16.—E. D., female, aged 5 months; breast-fed for five months. The child had extensive eczema while on breast, is very constipated on cow's milk. The stools are otherwise normal. During the past few

days she has been restless and has slept badly. Today she has suddenly developed a high temperature, 106+°. When I saw the child there was no apparent cause for the fever. The urine showed many pus-cells and motile bacteria. The temperature rose on two successive days to 105+°, and then was normal in the interval. Upon urotropine the condition soon became normal.

January 1, 1910.

CASE 17.—Baby B., female, aged 11 months; breast-fed until the present time. Had always been healthy until one week ago, when it developed pneumonia. When seen in consultation there was a small pneumonic area in the right lung; the temperature was 104.6°. The stools at this time were green, and the nurse said they had been so for several days. I saw her again on January 5th as the temperature continued high and the baby cried almost constantly. An examination revealed an apparent resolution of the pneumonia, so that the breath-sounds were practically normal. The baby cried as if in pain and sat swaying its body backward and forward, the nurse said, for hours at a time. The skin was extremely pale. The stools were still green and rather frequent.

Upon close inspection it was found that the urine was voided every few minutes in small amounts with much straining. An examination revealed a urine very turbid, acid in reaction, with a trace of albumin and with many pus-cells and motile bacteria. It was found that the mother was three months' pregnant, so the baby was weaned, but with great difficulty, as it would take no other food. The temperature kept up, and in spite of the urotropine the tenesmus was persistent. Finally a wet-nurse was secured for a short time, and the conditions gradually improved.

In this case I made several instillations into the bladder of a one-half to a 1 per cent solution of silver nitrate, with considerable relief of the tenesmus.

January 2, 1910.

CASE 18.—H. P., female, aged 11 months; breast-fed until present time. History was uneventful up to 10 days ago, when she had fever and slight disturbance of digestion. She cried a great deal, especially before passing urine, which was rather frequent. During the past week the temperature, which was taken daily by her physician, has ranged between 100° and 104°. The skin is very pale, and there is slight edema. Her physician had been unable to account for the fever and had examined the urine the day on which I saw her, and he found a few pus-cells and motile bacteria. Upon urotropine the condition rapidly cleared up.

January 20, 1910.

CASE 19.—L. M. D., female, aged 2 years. One year ago this infant had an attack which puzzled her physician for some time, but which was finally diagnosed as pyelitis. After a short time she recovered. At this time she has fever without any cause, apparently. The urine shows a few pus-cells and many motile bacteria. Under urotropine the condition promptly cleared up.

January, 1910.

CASE 20.—Baby N., female, aged 10 months; breast-fed; has always been well until one week ago when she had an acute colitis. The stools were frequent and foul with considerable blood. The temperature was high, and there was great prostration.

The condition had gradually improved, so that the

stools were much better in character and much less frequent until yesterday, when there was an exacerbation. The temperature rose to 104°, and there was a great deal of tenesmus, although, as the doctor said, the stools looked almost normal.

When I saw the child, on the evening of the second day after the exacerbation, she lay in a semi-stupor, groaning as if in pain. Upon close observation, the diaper having been removed, it was noticed that she was straining almost constantly, so that at times the rectum protruded, and every few minutes a small amount of urine was passed. Some of this was secured and examined, and was found to contain much pus. The convalescence in this case was, her physician informs me, rather slow, but progressive, lasting weeks. That the exacerbation in this case was due to a pyelocystitis there can be no doubt.

February 14, 1910.

CASE 21.—Baby F., female, aged 20 months; breast-fed three months. Four months ago the child had an attack of colitis, which was severe and lasted several weeks. At that time I examined the urine, which was clear. Two weeks ago she had an acute tonsillitis, which was so severe that her physician, believing it to be diphtheria, gave her antitoxine. She rapidly recovered from the tonsillitis, and was well until two days ago, when she suddenly developed high temperature, was extremely restless, and cried a great deal. No cause could be found for the symptoms. The urine was not examined by her physician. On examination I found the baby extremely restless and pale, would awake from a sound sleep, and cry out as if in pain. The temperature varied from normal to 104°; physical examination, negative; stools, good; urine, turbid and acid in reaction, with many pus-cells and motile bacteria. Under urotropine the condition rapidly became normal. Since that time there have been several relapses, but of much less severity than the first.

March, 1910.

CASE 22.—J. R., female, aged 4 years; breast-fed for one year; has always been fairly well, but rather pale and of flabby musculature; developed measles four days ago. The course, however, was rather mild. The cough during the first two days was rather severe, but there was nothing to be found in the lungs. On the afternoon of the fourth day of her eruption, when the temperature had already reached normal, there was a sudden chill, and the temperature ran up to 105°. Nothing could be found in the lungs or throat to account for the sudden fever. There were no symptoms except that the child was extremely nervous and perhaps passed urine more often than normal. There was no apparent local irritation. In the course of a few hours the temperature again reached normal. The following day the temperature again reached 104° without apparent cause. The urine was clear and acid in reaction, and slightly turbid with cold acetic acid. Under the microscope it showed an occasional pus-cell and motile bacteria. On the following day the urine was loaded with pus-cells. The condition was undoubtedly a primary pyelitis. The pus in the urine persisted in varying amounts for several weeks, but finally disappeared.

November 10, 1910.

CASE 23.—D. H., female, aged 15 months; breast-

fed for five months. Had slight rash a few weeks ago, which was perhaps a mild attack of measles. Two days ago had an attack of indigestion with vomiting; the temperature was 101°. Upon a "starvation diet" the stomach and intestinal condition cleared up, but the fever still persisted. The urine showed a considerable number of pus-cells and bacteria. Under urotropine the temperature disappeared in a few days, as also did the cells and bacteria from the urine.

April 5, 1910.

CASE 24.—B. S., aged 24 months; bottle-fed; has been badly nourished since birth, but has had no acute illness. Sixteen days ago came down with measles. This was very severe. The temperature, which was high at first, gradually dropped until it reached normal on the tenth day and remained normal for one day. The temperature again rose to 103+°, and both ears began to discharge. The temperature, however, has been persistent, so that today it is 105+°. There has been no history of bladder irritation. There has been some diarrhea with much mucus. Examination of the urine shows much pus and some pus casts.

The doctor informs me that under urotropine the condition is steady improving, and the pus and casts have practically disappeared from the urine.

August 9, 1910.

CASE 25.—G. S., aged 9 months; breast-fed. Baby has always been well until two weeks ago, when it began to have loss of appetite and vomited occasionally. Five days ago it began vomiting after every feeding, even by the bowel, and even teaspoonful doses of water were vomited. The temperature has been normal and subnormal.

August 14th. Patient began taking buttermilk today and does not vomit.

August 15th. Cries as if in pain and passes urine frequently. Urine shows many pus-cells and motile bacteria. After a week on urotropine the condition became normal.

DISCUSSION

Dr. L. A. Nippert (Minneapolis): There is nothing to criticise, and there are few things to emphasize in Dr. Ramsey's paper. In the consideration of these cases, after the exclusion of other affections, such as tonsillitis and bronchopneumonia, the urine should be carefully obtained by catheter and examined. The urine sometimes gives us an indication, without microscopic examination, by its feculent character and disagreeable odor, which is a symptom of this disease. The symptoms of an acute attack are restlessness and a peculiar intermittent fever that will last a few days, then stop a few days and then begin again, sometimes extending over a number of weeks before the source is recognized. Often there is pain in the bladder, and the patient usually connects the pain with evacuation of the bladder, but at times tenderness is present over an empty bladder. Children who suffer from the chronic form of pyelocystitis do not cry, which is a suspicious symptom.

In looking over the list of drugs formerly used in the treatment of diphtheria, the pharmacopea recommended fifty remedies; today we have one. So in pyelitis of infancy, there is but one, namely, urotropine to be given in large doses. Water should be given abundantly.

THE TEACHING OF HYGIENE IN THE GRADES*

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ANOKA, MINNESOTA

At the outset I wish to express my appreciation of this opportunity, although I regret that the unusually heavy duties incident to the opening weeks of school, have made it quite impossible for me to deal with this theme as adequately as its importance merits or this presence deserves.

I hold no brief for the public schools, although my life has been spent in their service. They need no defense, and they make no apology. They have performed their part in the development of our civilization as effectively as any other institution has its part. They are, of course, not perfect, which fact they fully appreciate, but they have more than kept pace with the rapid improvements even of this age of truly marvelous changes. They are effectively occupying their constantly enlarging field of operation, and doing many a new social as well as educational service.

No conventions are so numerous or so largely attended as are those of teachers. Our own state convention is yearly attended by thousands of teachers. In no profession do the members make greater efforts to improve than do teachers. I call to witness the tens of thousands who attend the summer schools each year, in every state in the Union. This, too, in the face of the fact that they are, as a class, notoriously underpaid, so that such activity really constitutes a personal sacrifice for the sake of their professional betterment.

And if, perchance, you attend one of these gatherings, or read the printed proceedings thereof, you will be impressed, I am sure, by the frank and fearless way in which the shortcomings, as well as the successes, of the schools, as to both matter and method, are discussed. What for? Simply to learn how to make them better, and thus render a larger social service.

I take the liberty of saying that much before the members of this conference because I am restive under the flood of uninformed criticism which has been in evidence in recent years, and because it is not every day that a professional schoolmaster has the opportunity to catch the ear of so many intelligent laymen.

We speak today of "hygiene in the grades"

because little is attempted, except incidentally, in this matter after the high school is reached, save, in some schools, a one-semester course in physiology, and this, let me say, is discouraged by the State University for it is not placed among the entrance subjects even to the college of medicine. And the high schools are compelled to shape their courses somewhat with reference to these university requirements.

And there are two other reasons why it is so vitally important that the teaching of hygiene be done in the grades:

First, that is the age when habits are in the process of formation, and good health results largely from good habits. And upon the general good health depend the happiness, the longevity, the prosperity, and the economic value of the individual; and so of the race. It is sad to contemplate the pain suffered, and the untold millions of dollars wasted, not through ignorance alone, but through failure to pay heed to the simple laws of health.

In the second place, hygiene, if taught at all, must be taught in the grades, because the vast majority of the children who enter school, pursue their education no further. Most do not even complete the work of the grades. If reached at all, then, these future citizens must be reached while yet in the elementary schools, and as low down in the grades as possible; for the very ones whose environing conditions or mental attitude are such as to induce them to drop out early are the ones most in need, as a rule, of sanitary instruction. They are destined to constitute that portion of the community least able to care for itself to best advantage; but for their own welfare, and the community welfare, it is essential that they live right, from the health standpoint.

Two authorities whom I have consulted upon this point, give the following statements: "Under our present conditions probably only from one-half to two-thirds of the pupils who enter the elementary schools, finish them"; "Scarcely one-half of the children of our country continue in school much beyond the fifth grade."

So the conclusion seems irresistible that hygiene must be presented as early in the elementary school course as possible.

Next let us see what the legal status of the subject is. Here the subject outranks all others.

*Read before the Minnesota State Sanitary Conference, October 5, 1910.

It is buttressed by ample legal enactments. "In forty-five states and territories the teaching of hygiene, with special reference to alcohol and tobacco, is made compulsory." "To hygiene alone is given the 'right of way' in the curriculum for regular and systematic consideration." "For the neglect of no other study may teachers be removed from office and fined." It is thus legally recognized to be "the most vital to the child, to the home, to industry, to social welfare, and to education itself" of all things taught in the schools.

Now, shall we go backward a little in our consideration of the subject? In our colonial days many people, and in some sections of the country most people, held even education to be a matter of private concern only. Government was to be reduced to its lowest terms. *Laissez faire* was the social-political slogan. But this extreme individualistic attitude has given way to a more altruistic one—so much so that perhaps in centuries yet to come the distinguishing feature of our present-day democracy will be held to be its altruistic, or socialistic, attitude. Not simply that the people trained themselves in self-control sufficiently to conduct their machinery of government, and were willing to obey their self-imposed restrictions, but that they realized, progressively, the truth that no man lives unto himself alone and that each is his brother's keeper, and that they pushed government control into fields of activity once deemed wholly private.

Among the earliest of these incursions was the establishment of public schools. And reaching and touching, vitally, as they do, well-nigh every home in the land, when once firmly established, it early became apparent that the schools might, and, some contend, *should*, be made the medium for propagating any reform sentiment, and for spreading necessary knowledge, especially kinds not already found in text-books.

Herein lay a danger, as well as an opportunity, for the schools. Obviously, they cannot do everything. They cannot assume all the functions abdicated today by the home and the church and society; yet, to too large an extent, they are struggling to do that very thing.

For evident reasons, then, it was early considered important that, while boys and girls were busy learning facts, mastering principles, gaining intelligence, and developing appreciation of all sorts of subjects exterior to themselves, it might be worth while to learn something about themselves; hence there came into the curriculum what was truthfully termed *anatomy*. Who can-

not at this moment hear the rattle of the "dry bones" as he thinks of the memory-racking hours spent with Yaggy's Anatomical Chart! What patient drill to learn the names of all the bones, and joints, and muscles, the circulation of the blood backward and forward, etc. And when to that is added the fact that geography and history were made mainly memory-studies in all their wearisome details the unhappy lot of the school-boy of that day is realizable.

It seems impossible that much good could have come from the old-time study of anatomy, except in so far as it gave recognition to the dignity and worth of the human body as a subject for study.

The next phase of the study came when the Woman's Christian Temperance Union assumed a responsibility for spreading temperance teachings through the public schools; and to the then dull details of anatomy was added the teaching of special warnings as to the evils of alcohol and narcotics.

Then the study of alcohol and narcotics and their effects upon the human system became the dominant note, and was carried to absurd extremes. It was held that as much time should be devoted to them as to a subject like language or history. It was simply impossible, and laws enacted to that end became dead-letter laws. But the hobnailed liver and the ulcerated stomach, in lurid colors, became prominent on the charts.

At least this much may be said of this phase of the subject. It was steadily becoming "hygienic" rather than anatomical or even physiological. These latter two aspects of the subject occupied and somewhat wasted the time of at least a generation of school children. It is folly to lament them. It is unphilosophical, too, for they were stepping-stones to better things, and upon their "dead selves" the better days of the present have been built. And the present is far from perfect: is still a groping after better things; a period of imperfect knowledge, of too little effort, and of some misdirected effort.

In effecting a result through the agency of the schools, there are two factors especially to be considered,—the public and the teachers. The taxpayer is slow to provide funds for new lines of work. Too often his logic runs illogically like this: "What was good enough for me is good enough for my boy." So work cannot move very much in advance of public sentiment, for the stream cannot rise above its source. Many advanced hygienic movements, like dental and medical inspection in the schools, play-

grounds, school nurses, etc., have made slow progress for this same reason.

There is no escaping the fact that the basis for successful work is dollars and cents, and these must come from the taxpaying public.

While the "slow" taxpayer is hard to win over, when once won, he often is irresistible in his enthusiasm. See how he is pushing manual training and domestic science and trade-schools faster than experience can furnish safe guides.

Again, whenever you attempt to accomplish a given result through the schools, do not fail to remember that the teachers are already overburdened with much work and many details. Remember, too, that in all except the large cities, where salaries are high and tenure of office fairly stable, the teachers are young girls averaging about 20 to 22 years in age, and thus wanting in experience and observation, which are so necessary in teaching a subject like hygiene.

Remember, again, when thinking of the teachers of America and their truly wonderful work, that it is *women*, and not *men*, of whom you are thinking. The low salaries sanctioned by the public prohibits the employment of more than a few men, and those mostly in administrative, and not in teaching, positions.

Frankly, we are only just beginning to realize what hygiene is, and what its importance is. The work done so far has been largely tentative, pioneer work. Heretofore the aim has been chiefly personal. The subject has been thought of, and consequently treated, with reference to the individual rather than the community. Webster defines the word thus: "Hygiene. Science of preserving health, especially of households and communities."

Today, so far as my knowledge of the schools goes, the endeavor is made, so far as limiting conditions will permit, to teach hygiene in its broadest implications, including with the individual the larger units, the home and the community, of which he is a part. Among the "limiting conditions" which render nugatory the efforts in the right direction are the over-full curriculum, the youth, and consequent inexperience, of the teachers, and the limited facilities furnished by the school authorities; and still more important is the lack of proper text-books, which was a vital defect till quite recently. Health experts were not wholly at agreement among themselves: the leading men among them were too busy on the firing-line to prepare suitable school-books with the best and latest con-

clusions they had reached in their researches, and no one else was competent to do so. Truly, it is no easy task to put these things within the comprehension of children less than fourteen years of age, and at the same time invest them with life and make them interesting.

Conditions are now better. We have two or three excellent books. One series is simply magnificent, combining a fine literary style with the best knowledge on hygiene, and all driven home by a choice selection of apt illustrations.

What, then, is the present status of the teaching of this subject in the schools, a subject of which one of England's prime ministers said, "The first duty of the statesman is the health of the people."

From the day the child first enters school, at the age of about six years, until he is ready for the high school eight years later, he is regularly instructed by example and by precept, by informal or general oral lessons, and by means of the regular text-book, and has impressed upon him, emphasized, and forced into his consciousness, the simple essential laws of individual and community health and well-being.

In the primary grades the lessons are usually personal, relating to the proper care of the eyes, the teeth, the nails, the nose, the use of the bath, care in eating, the need for fresh air, etc. This is done partly as a matter of ethics, but good care of the person is doubtless highly ethical. These matters early and easily pass over into questions of household hygiene. Here, owing partly to inertia and partly to the fact of small and non-modern homes, the work in the schools results in giving information, but not in establishing habits that are hygienic. Ventilation; foods, including kinds, their methods of preparing, and their digestibility; etc., are touched upon.

Now, without going into wearisome details, but merely mentioning the topics in running order, I may indicate the ground covered by the texts in the schools of which I have charge, so that some idea may be formed of the scope and aim of the work, which is no better, I am sure, than that in all our best school systems.

They include such questions as pure air,—how to get a constant supply, and the things that spoil it, such as dust, germs, gases, etc.,—with all sorts of practical and near-at-hand illustrations; tobacco and its effects, with many new and apt stories to press home the lessons; the bad effects of drafts of air, but the need of ventilation; microbes, good, bad, and indifferent;

the relation of microbes to disease and decay; the spread of infectious and contagious diseases, and the precautions taken. Here our own work in handling smallpox, diphtheria, and scarlet fever serves as illustrations. This leads to the necessity for community cleanliness, and here the work done last spring when the whole city school-force spent one day in a general clean-up of the city was a fine hygienic as well as civic lesson.

In our text tobacco-chewing is discussed in a chapter so fresh and effective that the sanitary habit of not spitting all about is made perfectly plain. Sleep, in all its aspects; the eyes, their care, correct use, and the effects of too much and too little and ill-directed light, paper, print, and reading habits; the transfer of disease through towels, pencils, erasers, drinking-cups; the exchange of chewing-gum; and so on through the whole catalogue of matters which are small, but full of possibilities for weal or woe are briefly considered.

Emergencies, with simple first-aid treatments, the chance for infection and evil results even in small wounds, and such matters occupy the time of one whole grade for a year.

Schools are in and part of communities, consequently social sanitation and hygiene, as well as personal, must be taught. The evil effects of overcrowding in school and in homes, dampness, dirt, darkness, bad sewage, poor water-supply, dumping of garbage, ashes, rubbish, etc., are thoroughly discussed with local illustrations

as far as possible. Clean streets, school-grounds, etc., come in for lessons.

The series of books which we use as the basis for this work are five in number, each covering a year, and a vast variety of topics of which I have given you a few samples. In addition, the children are taught constantly by their teachers the essentials of personal and general hygiene, as occasions arise to make the lessons pertinent.

"We are in the midst of a world-wide movement tending toward the increase of health and the conservation of human vitality." And I am convinced of one thing, that the schools and the noble women in them are doing their best to usher in the day when disease, and ill health, and unsanitary conditions shall be in full rout, and are willing to do yet more if expert leaders will point the way.

Thank heaven, the responsibility for the countless lives lost and the countless lives shortened or rendered ineffective through ignorance and negligence in sanitary matters, does not rest wholly upon us, but also upon the homes, boards of health, municipal authorities, landlords, shopkeepers, and the general public.

We can only do our best, remembering "The very best of us leaves his tale half untold, his message imperfect, but if we have been faithful, then because of us, someone who follows us, with a happier heart and in happier times, shall utter our message better and tell our tale more perfectly."

A CASE OF MALIGNANT ENDOCARDITIS WITH RECOVERY*

By H. L. STAPLES, A. M., M. D.

MINNEAPOLIS

Four years ago I reported to this society an interesting case of this character with post-mortem findings. In my opinion the case resulted from an especially profuse and offensive pyorrhea. The whole number of cases observed by me up to that date was ten. Since that time I have had under observation twelve more cases, all of which have terminated fatally, except the last. Necropsies were obtained in nearly all of them, and the diagnosis confirmed, though an examination was impossible in a few apparently positive cases. The infective agents in most instances were streptococci or pneumococci. Two were gonorrheal. Pneumonia was an antecedent in two, and one was subsequent to a severe

typhoid fever. One case very kindly submitted to an examination by the University senior class at St. Barnabus Hospital, and well recognizing her condition she willed her heart to them for an examination on her demise.

Another resulted from an operation by a quack for the relief of suppressed menstruation. This woman had a chronic endocarditis of years standing, and Dr. Chowning found enormous vegetations on the heart-valves. Another resulted from a follicular tonsillitis. I found her after a few days' illness with a temperature of 104°, which rapidly rose to 105° and to 106.75°, and she literally burned up in about three weeks. She had an old aortic insufficiency, and during her illness the harsh, rough, variable murmurs could be heard with startling distinctness.

*Read before the Hennepin County Medical Society, October 3, 1910.

An interesting case is reported following a chancroid. The leucocyte count reached 89,000. Death occurred in one month and large vegetative masses were found on the aortic valves.

The most striking feature is the predisposing influence of former endocardial disease. The actual cause is micro-organisms in the blood-current. Symptoms are usually fever, infarcts, glandular enlargements, chills, and sweating. Repeated rigors, sweats, and a swinging temperature are suspicious. Petechiæ in the skin should be looked for, and they are regarded as characteristic.

There may be no evidence of cardiac disease by auscultation or percussion. The chronic form, always fatal, is thus described by Schotmuller. It is due to a streptococcus, not very virulent, but inducing necrosis in the endocardium with wart-like growths. The germs are carried from these into the general circulation. He describes the clinical features as insidious onset, vague pains in the joints and muscles, palpitation, dyspnea, and a dry cough leading to a suspicion of tuberculosis. Retinal hemorrhage is common. Death results usually from cerebral hemorrhage, infarction, or hemorrhagic nephritis.

When the deposit is slight on the free endocardium or at the base of the valves, no murmur may be present. If a murmur rapidly changes in character with evidences of infection and emboli, we should always consider the disease.

The case I now report is as follows:

Mrs. X., age 30. Family history, good; personal history, suspected tuberculosis some years ago; a nervous exhaustion prior to that time, from which she fully recovered. Had had two children. One died of tubercular meningitis; the other is one year old and in apparent good health. An extensive psoriasis has existed a long time. A history of several attacks of follicular tonsillitis, two during the past winter.

April 26th, the enlarged tonsils were removed under the most careful hospital surroundings. The temperature and pulse gradually rose until May 3d. When I first saw her the temperature was 104° and pulse 120. She was nauseated and complained of severe pains in her back, neck, and limbs.

May 4th and 5th, symptoms increased in severity with marked vomiting. A throat-culture showed no diphtheria bacilli, but abundant streptococci.

May 6th, the urine contained a large amount of albumin, with blood and casts. She had two

chills during the day, lasting ten minutes each. Temperature, 104.5°; pulse, 126.

May 7th, she had two chills, one of fifteen minutes and another of twenty minutes duration, followed by profuse sweating. Patient was delirious at intervals. Tongue was very dry with a dark-brown deposit; says it felt like a grater. Highest temperature, 104.75°; pulse, 130. Twenty c.c. of streptolytic serum were administered on this day.

May 8th, the right forearm became tender and swollen, and a tendon-sheath effusion appeared. The latter attained the size of a small hen's egg. Condition slightly improved, no chills.

May 9th, small petechiæ were observed for the first time. Twenty c.c. of serum were again given. Bladder had to be catheterized and for two weeks subsequently.

The heart was enlarged with a tumultuous action. There was a loud, rough, mitral systolic murmur transmitted to the left. At the base was an aortic systolic murmur, heard over a large area, very harsh in character, and transmitted upwards. These sounds varied during the progress of the disease. The heart was normal prior to this illness.

May 10th, a marked synovitis appeared in the right knee. The knee was red, swollen, and exquisitely tender. The pain at times required morphine. A phlebitis appeared in the right thigh. Emaciation was pronounced. The leucocyte count was 15,000. The count is of no particular value, as it will sometimes drop when the patient is manifestly worse, and in chronic cases it is frequently normal.

May 16th, Dr. Ulrich obtained several blood specimens, but the cultures were negative. Unfortunately, further specimens were refused. In these cases three or four attempts should be made, as where a homologous vaccine can be obtained the action is much more certain of benefit than by use of stock serums.

The pulse and temperature became very erratic, but did not become normal until August 1st. The knee inflammation resulted in a partial ankylosis. We may say that the patient has fully recovered, except for a very slight mitral, systolic murmur accentuated by exercise or excitement.

It is possible to save some of these acute cases by prompt treatment. The past supportive and symptomatic plan has been replaced by the use of vaccines and serums with an occasional successful outcome. It should be prompt before

destructive lesions have appeared in organs other than the heart. The chronic cases are inevitably fatal.

In regard to preventive measures, the most trivial trauma may be the portal of entry. At every entrance made into the circulatory or lymphatic systems "stands a huge infectious troop of pale distemperatures and foes to life." We are developing an infinite throng of active workers buzzing around every human orifice like flies around the bung-hole of a molasses barrel. They are imbued with a holy zeal to ablate, extirpate, eradicate, dilate, or irrigate. In some the bump of caution is not extraordinarily hypertrophied.

In large cities all operative work about the nose and throat should be delegated to those especially equipped, but they must combine with technical skill a thorough knowledge of general medicine, either in themselves or in others, or occasional disaster will be the inevitable result. An old writer very aptly remarked that some physicians are so regular in proceeding according to art for the disease that they respect not sufficiently the condition of the patient. All lesions of the mucous membrane about the nose, throat, uterus, anus, or male urethra may plunge the patient into a ghastly whirlpool of infections.

I well remember, in my student days, a case where the male urethra was dilated with sounds. The man had rigors, sweats, and a high temperature, dying in two or three weeks. The expert consultants were divided between urinary fever and a peculiar idiosyncrasy. The sounds were kept in a beautiful velvet-lined case, and after use, if time permitted, were gently wiped with a towel. The snare method of removing tonsils is open to objection, in that it leaves a crushed necrotic sloughing surface, a ready avenue for infection. With sufficient dexterity it seems the tumor could be removed by clean-cut incisions, and the hemorrhage controlled by pressure. At any rate, the pedicle for the snare should be made very small.

There exists a tremendous difference in the resisting powers of the individual. Cases with marked increase in blood-pressure, chronic valvular heart disease, chronic nephritis, advanced arterial sclerosis, and, especially if the status lymphaticus be suspected, demand the *laissez faire* or let-alone policy, unless the urgency for relief more than counter-balances the positive danger.

Remember Sydenham's sapient advice:

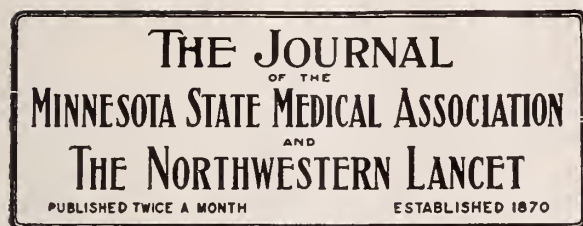
"Whoever takes up medicine should seriously consider that he must one day render to the Supreme Judge an account of those sick ones who have been entrusted to his care."

Since reading this paper another case has come under my observation.

A man, 35 years old, had black-water fever in Africa and rheumatism. On admission to the hospital he had chills, a swinging fever, and sweats. The heart was hypertrophied, with a rough systolic basic murmur. Petechiæ were numerous over the left forearm. An embolus soon completely plugged the left popliteal artery, and he died the next day. At necropsy abundant vegetations were found on the aortic valves and the base, from which the embolus was fractured, was easily demonstrable. He had also a gas-bacillus infection, and the gas would ignite on tapping the distended scrotum.

THE CARE OF THE MAMMARY GLANDS BEFORE, DURING AND AFTER THE PUERPERIUM

J. H. Tebbetts, of Hollister, Cal., ascribes great value in the treatment of all sorts of troubles of the breast connected with pregnancy and lactation to firm bandaging over layers of non-absorbent cotton. He keeps the breasts bandaged thus from the second day after the labor, changing the dressing daily. When the babe has nursed, the nipple is washed with boric acid and the dressing replaced. Caked breast is never seen under this treatment. The thickness of the cotton is gradually decreased to the eighth day, when it is removed. Sore nipples are due to infection. Sterilized castor oil is applied, after cleansing with lysol solution, nursing is forbidden, and the breasts are bandaged with cotton-batting. The breast will never become overdistended while bandaged. Caked breast on the third day after labor is regarded as due to a normal congestion, and is treated with the bandage. Mastitis is treated in the same way, any collection of pus being incised, and nursing stopped. For weaning, the bandage is equally useful. This method is a simple and practical one of treatment of the mammary gland, as well as a preventive of many troubles.—Medical Record.



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SPECIAL NOTICE TO SUBSCRIBERS

If our subscribers who desire to have the files of their papers complete, will ask *at once* for any missing issues of the current year, we will furnish such numbers, free, while our supply holds out.

The requests for copies of THE JOURNAL, from all parts of the country and not infrequently from abroad, have been much greater this year than ever before. This is due to two causes, perhaps to three: The number of journals publishing titles or abstracts of all articles appearing in the medical press throughout the world, is constantly increasing; the number of high-class articles published in THE JOURNAL in 1910 has been notably large, as, for instance, on poliomyelitis; the high quality of the medical literature of the Northwest, published mostly in THE JOURNAL, is becoming generally recognized.

These combined causes have resulted in so great a demand upon us for extra copies that our files for 1910 are very much reduced, and some issues are exhausted.

We commend these facts, and a consideration of their significance, to societies and associations burying their proceedings, of course including all papers presented, in a volume of transac-

tions, which is generally gotten out by a country printer (the city printer is but little better) in a manner that would offend the gods, if there are any directing the affairs of medical men.

MINNESOTA HEALTH PROBLEMS

THE JOURNAL-LANCET wishes to call the attention of its readers to the record of the meeting of the Executive Committee and State Board of Health with the Legislative Committee from the Minnesota State Medical Association, the State Sanitary Conference, and the Medical Alumni Association of the University of Minnesota. It will be seen from the items that many important subjects were freely discussed. The Legislative Committee is looking forward to the accomplishment of things this year, and hopes to accomplish some very important work through the legislature. (See page 542.)

Some of these items are open for discussion, and anyone of them might in itself make a very readable article.

Again, our readers' attention is called to the necessity of the co-operation of all physicians in the state to give immediate and continuous aid in explaining to the representatives and senators the needs of the state. If each physician or each local society would take these matters into their meetings, discuss them thoroughly, and pass resolutions endorsing the action of the Legislative Committee and transmit to their senators and representatives a copy of the resolution signed, not only by the secretary of the society, but by every member, it would have great weight. Undoubtedly, there will be much opposition in the legislature this year to all things medical.

The so-called League of Medical Freedom is going to be very active, and doubtless antimedical bodies are going to do all in their power to hamper legislation. Their main effort has been to tear down, and to prevent the laying of a foundation for sanitary progress. In spite of the fact that these people, these antagonists, are ignorant and ill-advised, or that some of them have some special interests to protect, or think they are to be deprived of their personal liberty, the work of preventive medicine and sanitation will go forward.

The physicians of the state must combine to educate, not only the antagonists, but the public in general. This does not mean that you must slander, or libel, or abuse the adversary: you must simply seek to educate the people's representatives. This can be done without friction, without unpleasantness, by logical reasoning and

the proper presentation of the subject; and it is to be hoped that the various recommendations of the Legislative Committee will be supported in every item.

THE RESULTS OF MRS. CRANE'S VISIT

When a civic expert like Mrs. Crane, comes into a city the size of Minneapolis, too much must not be expected of her investigation, particularly when she is able to spend but one week in looking over certain sanitary features, and then sum them up in one lecture. A great many people have an idea that Mrs. Crane should have accomplished more, and should have told the authorities and the people what was expected of them. This is hardly a just point of view, for Mrs. Crane is an educator and she came into the city to point out its defects and its unsanitary conditions, and perhaps tell us only what we have known before; but, in the repetition of such criticism as she gave, she stimulated all of her hearers and readers to take a greater and more active interest in the line of city improvement.

Evidently, the criticism directed against the school-houses in Minneapolis bore rapid fruit; and, if she accomplished nothing else in her stay here, the repair and the safeguarding of the old Emerson school, which was undertaken immediately by the Board of Education, will amply repay the city for her visit and her opinions. However, she did much more than this: she spoke of many things that are interesting and valuable to everyone, and her criticism of the pending milk ordinance resulted in a better ordinance, which will doubtless meet with her approbation. This question in itself is a tremendous one, and all conscientious dairymen who heard her discuss the milk problem, went away pleased with her remarks, and not at all disgruntled at her criticism. It must be conceived that the men who handle milk are as anxious to do the right thing as distributors, and no one can tell how much good Mrs. Crane did in that direction alone. It undoubtedly made the dairymen think more seriously of their part in municipal betterment.

The results of Mrs. Crane's work are not wholly due to what she did in any one place, but it is the combination of her efforts through the few cities in Minnesota that will produce results. All of her work was heralded in the papers and was read by thousands of people, and it is safe to affirm that the majority of them were in sympathy with her remarks and were kindly disposed toward her criticisms, but there

may be a few disgruntled persons, particularly among those who have been more or less derelict or ignorant of their duties. In the minority who looked upon her adversely, there are but few thinking people. The educational view of Mrs. Crane's work still stands out prominently and is of the greatest importance.

The one difficulty to which we are all subject is our laxity and apparent indifference and our reluctant laziness to continue to stamp out bad city habits. We are inclined to think that, if the matter is talked over and discussed in public, our duty is done; but, in reality, it is the worker who makes further advances, who is determined to carry forward reform, and to continue in educating the people toward better things, that makes such efforts worth while.

Minneapolis is still far behind in its municipal cleaning up, and certainly very far behind in other municipal problems whose solution should make it a great city. Mrs. Crane's work has been very much appreciated in Minneapolis, and we are grateful to her, individually and collectively, for the great efforts she made to help us solve municipal and sanitary problems in Minneapolis.

THE RECORDING OF PATIENTS' HISTORIES

Among the physicians, unfortunately all too few, who keep careful records of their private patients, there is considerable diversity of opinion as to the best method to employ. To keep the histories in a bound book insures their not being lost, but a book is cumbersome, the amount of space designed to be devoted to each case is uniform, while the interesting thing about the patients is that they are never uniform, and, finally, it is impossible to have the book at the bedside, where the notes of patients not coming to the office should be taken, for the points which one can recall when a suitable opportunity for writing them out does appear, are usually the ones that are not worth recording.

The card system, on the contrary, is much less cumbersome, the amount of space for each case can be varied to an infinite degree, and individual cards can be carried anywhere,—to the office, to the bedside of the private patient, or to the hospital. The weakness of the card lies in the ease with which it can be lost, and anyone who has had the experience of permanently mislaying the history of his most interesting case will consider this no small fault.

In history-taking there also rises at once the

question of whether to use the printed page with its limited space for each finding and the consequent inability to provide properly for the varying points of interest in each case, or to use a blank page with its possibilities for infinite variation in the space devoted to each subject, but with the necessity for increased writing and the consequent tendency, wittingly or unwittingly, to slight many findings. All these are problems which anyone who has endeavored to formulate a suitable method of history-taking has encountered, and which he must largely solve for himself. For a method suited to the systematic individual, for example, is not necessarily satisfactory for one of less orderly habits, and the method which meets the needs of one specialty does not necessarily fulfill those of another.

Of the importance of some one method of keeping records, persistently adhered to, however, too much cannot be said. Almost more than anything else it makes for precise and systematic observation of a case and at once marks the difference between the man who, in his writing and in his discussions, shows that familiarity with *facts* which makes his words carefully listened to, as compared with the man who deals in generalities drawn from uncertain memories and in second-hand information.

Few things are more valuable in developing right methods of clinical reasoning than to go over one's records—say, once a month—to revise the diagnosis, when necessary, or to make this anew when none has already been made, and to once more interpret the symptoms in the light of subsequent events.

With the idea of stimulating interest in clinical records and of helping to form habits of precise observation on the part of practitioners, the medical staff of the Inter-State Medical Journal, of St. Louis, have just published "The Practitioner's Case-Book" for recording clinical histories. The book contains two hundred and eighty-six octavo pages, two of which are devoted to each case and contain space for the essential facts of practically any general case, and, with some modification, could be made to conform to the needs of any specialty. At the end of the book is a series of eighty detachable colored charts to facilitate the graphic recording of special symptoms. It is an excellent case-book.

MISCELLANY

HENRY HUTCHINSON, M. D.

Dr. Henry Hutchinson, President of the Minnesota State Board of Health, died December 1, 1910, in Algiers, Africa. Dr. Hutchinson was born in Montreal, Canada, August 20, 1849, and came to Minnesota in 1859. He graduated from the Hahnemann Medical College of Philadelphia in 1874, and after practicing medicine for four years in Northfield, Minnesota, he moved to St. Paul, where he continued his professional work until shortly before his death. He was appointed a member of the State Board of Health in January, 1895, by Governor Knute Nelson. In 1896 he was made vice-president of the Board, and in April, 1904, following the death of Dr. Franklin Staples, he was chosen president. This position he continued to hold until the time of his death. While actually president but six and a half years, he was, in fact, president a longer period, for Dr. Staples was not able to attend Board meetings during the last two or three years of his life.

Dr. Hutchinson went abroad on August 12, 1910, with the intention of spending the winter in a semitropical country. It was while enjoying this well-earned professional ease that the end came.

It is worthy of note that Dr. Hutchinson was the third president of the Board to hold this position from the time of his election until death. The first president of the Board, Dr. A. B. Stewart, of Winona, served but one year, resigning from the Board at the end of that time, 1873. The record for the other three presidents is as follows: Dr. D. W. Hand, St. Paul, 1873-1889; Dr. Franklin Staples, Winona, 1889-1904; Dr. Henry Hutchinson, St. Paul, 1904-1910.

To Mrs. Hutchinson, who was with her husband at the time of his death, is extended the sympathy of the Board.

H. M. BRACKEN, M. D.

MINNESOTA STATE BOARD OF
HEALTH EXECUTIVE COMMITTEE
MEETING, NOVEMBER 29, 1910

The Committee, consisting of Drs. W. A. Jones, J. A. Quinn, B. J. Merrill, and H. M. Bracken, met to discuss certain matters of importance that should go before the next session of the Legislature. Meeting with the Committee to discuss these problems were Dr. F. F. Westbrook, Dr. H. W. Hill, Professor F. H. Bass, and Mr. O. C. Pierson, representing certain divisions of the Board, Professor Schulz of the Department of Public Instruction, Mr. Challman, Inspector of Graded Schools, Drs. Thomas McDavitt, W. L. Beebe, J. W. Robertson, Warren A. Dennis, T. C. Clark, and H. A. Tomlinson, Mr. C. Easton, and Assistant Attorney-General C. L. Hilton.

The subjects discussed were—

1. Medical inspection of schools.
2. Power to condemn unsanitary school buildings.
3. Compulsory reporting of tuberculosis.
4. State aid for county sanatoria.
5. Provision for bond issue to pay for county sanatoria.
6. A clean bill of health required for children coming from a home where tuberculosis exists.
7. Segregation of the tuberculous living in almshouses.
8. Legislation to permit county commissioners to employ visiting nurses.
9. Increased salaries for superintendents of state institutions.
10. A dog license.
11. Relating to the control of the construction of water and sewerage systems.

1. *Medical inspection of schools.*—The desirability for medical school inspection was thoroughly discussed, after which the Executive Committee advised that Professor Schulz, Mr. Hilton, and Dr. Bracken plan a permissive bill looking to the provision for medical school inspection throughout the state.

2. *Power to condemn unsanitary school buildings.*—It was recognized that some board should have power to condemn unsanitary school buildings. In the past appeals have been made repeatedly to the State Board of Health to take action in such cases, but there is no law providing for this. A thorough discussion of this topic brought out the general feeling that complaints should go to the State Board of Health

through the Department of Public Instruction. Here, too, it was advised that Professor Schulz, Mr. Hilton, and Dr. Bracken plan a bill for presentation.

The State Association for the Prevention and Relief of Tuberculosis, through its board of directors, has already considered favorably the introduction of bills bearing upon Nos. 3, 4, 5, 6, and 7.

3. *Compulsory reporting of tuberculosis.*—Those in session with the Executive Committee fully recognized the need of compulsory reporting of tuberculosis, if this disease is to be so handled as to permit of its control.

4. *State aid for county sanatoria.*—It was the sentiment of those assembled that the appropriations to the State Board of Health should provide for such aid, if permitted. Provision for state aid could be brought about by amending the existing law relating to the establishment of county sanatoria.

5. *Provision for bond issue to pay for county sanatoria.*—Those present agreed that counties should be allowed to issue bonds to pay for county sanatoria. As it is at present, the levy allowed by law applies to one year only. In many counties the desire to establish sanatoria may exist, but without the privilege of issuing bonds, thus extending the cost over several years, the financial conditions of the county are such that sanatoria cannot be secured.

6. *A clean bill of health required for children coming from a home where tuberculosis exists.*—It is quite evident that children coming from a home where tuberculous patients reside should be examined, both as a matter of safety for themselves and for their associates, in order to determine whether or not they are suffering from tuberculosis. The system carried on at some tuberculosis dispensaries of following the patients to their homes and examining all members of the household is an excellent one, for it often brings to light patients suffering from the disease in its early stages, thus permitting of early treatment and the saving of the individuals.

7. *Segregation of the tuberculous living in almshouses.*—It is a common custom in many almshouses to make no attempt at the separation of tuberculous patients from the other inmates. This is simply criminal with our present knowledge of the infectiousness of this disease, and it is quite right that a law should be passed governing this point.

8. *Legislation to permit county commission-*

ers to employ visiting nurses.—Relative to the employment of visiting nurses by county commissioners, it has been ruled that, under the present law, county commissioners can employ nurses only to visit paupers. This is humane, but not sufficiently far-reaching. Visiting nurses can be of great service in the families of others than paupers, for they can aid and direct in matters pertaining to the care of patients suffering from infectious diseases and thus, to a great extent, prevent the spread of disease. Such action, although necessitating some expenditure of money, will undoubtedly result in the saving of considerable sums.

9. *Increased salaries for superintendents of state institutions.*—As to increasing the salaries of superintendents of state institutions, it seemed to those present that a maximum salary of \$2,700 now paid to the heads of such institutions as our hospitals for the insane, the State School for the Feeble-Minded and Epileptics, the State School for Dependent Children, the Reformatory, etc., was absurdly low, for the type of men holding these positions can command much larger incomes in private life. It appears that the fixing of these salaries rests with the State Board of Control. The general sentiment was that the salaries of these superintendents should not be less than \$3,500 per annum.

10. *A dog license.*—Relative to a dog license, the point was brought out that hydrophobia was entirely too general throughout the state and that, as a result, there is a financial loss through the destruction of cattle and also a loss through the injury to human beings and the necessity of expense in attendance at the Pasteur Institute for prophylactic treatment. Hydrophobia can best be eliminated from the country by a compulsory muzzling-law extending over a considerable period of time. If this is not practicable then a dog-license law should be passed. This would not be nearly so effective as a muzzling-law, but would provide for the destruction of the roaming dogs that have no owners, and would thus tend to reduce the amount of hydrophobia.

11. *Relating to the control of the construction of water and sewerage systems.*—This subject was discussed. It is realized that the time to act in such matters is before, rather than after, their construction, if the best sanitary and economic results are to be secured.

H. M. BRACKEN, M. D., Executive Officer.

BOOK NOTICES

APPLIED ANATOMY. By Gwilym G. Davis, M. D., Associate Professor of Applied Anatomy, University of Pennsylvania. Cloth, 630 pages, and 630 illustrations. J. B. Lippincott Company, Philadelphia and London.

If this volume achieves the success deserved, it will be commonly found in the working libraries of surgeons, especially in those of the younger men in the profession. It is a practical, utilitarian work of high order. The bare facts of anatomy are only briefly given, the principal attention and effort being bestowed on their practical application, and the explanation of the relation of structure to function in which the function, disturbed or impaired by injury or disease being of greater importance than the normal, is always paramount.

The subject of dislocations and fractures is especially well handled. Treatment occupies a good portion of the space throughout.

NEWS ITEMS

Dr. T. N. Kirkpatrick, of Letcher, S. D., died last month.

Dr. O. C. Trace has moved from Maple Plain to Clear Lake.

Dr. J. H. Trimbo has moved from Harvey, N. D., to Forman, N. D.

Dr. John S. Kilbride, of Canby, has gone to Europe for a year's study.

Dr. James S. Bates has moved from Erwin, S. D., to Clear Lake, in the same state.

Dr. Frank Clay, a recent graduate of the State University, has located at Shakopee.

Dr. J. A. Hielscher and wife (formerly Dr. Helen Hughes), of Mankato, have moved to Rolla, Mo.

Dr. E. T. Ramsey, of Clark, S. D., was married last month to Miss Harriet Bennet, of the same place.

Dr. W. H. Vittum, of St. Paul, has published a volume of poems which are highly spoken of by the press.

Dr. Charles S. Stevens, of Mowbridge, S. D., was married in November to Miss Lillian Garrow, of St. Paul.

Dr. George H. Kirk, of Superior, Wis., has purchased the Pipestone Hot Springs, a health resort near Butte, Montana.

A \$25,000 railway hospital building is to be erected at Mowbridge, S. D., by the Milwaukee Railway Hospital Association.

Dr. H. A. Oftel has moved from Oslo to Cambridge. Dr. Oftel is a graduate of the State University, class of '02.

Dr. Charles A. Greene, of Windom, died last month at the age of 65. Dr. Greene had practiced in Windom over thirty years.

Seattle, Washington, is to have a children's orthopedic hospital. The building will cost \$75,000, and work has been begun upon it.

Dr. H. L. McKinstry, of Red Wing, has resumed practice after a vacation of several months, spent on his farm in North Dakota.

Dr. L. T. Pare, of Duluth, was elected president of the Interurban Academy of Medicine at its meeting last month held at Superior, Wis.

Dr. Clifton Booren has moved from Hillsboro, N. D., to Northwood, N. D., becoming associated with Dr. Peterson of the latter place.

The handsome new Nurses' Home of the Winona General Hospital, is ready for occupancy. It is a three-story structure, 40x50 feet in size.

Dr. John Lyng, of Alexandria, has returned from Europe. He spent four months in London, Paris, and Vienna, studying brain and stomach surgery.

Dr. Henry Hutchinson, of St. Paul, died on December 1st in Algiers, Africa, at the age of 61 years. Further notice of Dr. Hutchinson's life appears on another page.

Dr. H. J. Thornby, who recently sold his practice at Lake Park, has located at Pelican Rapids, and has bought a half interest in Dr. Burnap's hospital in that place.

Dr. W. A. Jones, editor of THE JOURNAL-LANCET, became the acting president of the State Board of Health upon the recent death of Dr. Hutchinson, the president.

Dr. Mose L. Strathern was married last month to Miss Anna Ellis, of Ishpeming, Mich. Dr. Strathern gained a wide reputation as a football player at the University. He is now practicing in Faribault.

The training-school for nurses in connection with the University Hospital will be in charge of Miss Louise M. Powell, recently of Columbia. Applicants for admission will be received

until February 1st, 1911. The requirements are high.

Dr. Merton Field, of Minnesota Lake, has sold his practice to Dr. Sherwood Dix, of Norfolk, Virginia. Dr. Field has been doing post-graduate work in Chicago, and will locate elsewhere in the state and do eye, ear, nose, and throat work exclusively.

Inspection of the milk supply and medical inspection of the public school pupils of Minneapolis are two much-discussed topics now-a-days. A *perfect* system is sought in each case, and there is danger that two worthless systems may result from the interference of lay bodies and lay busybodies.

At the annual meeting of the Black Hills (S. D.) District Medical Society, held at Deadwood, S. D., last month, the following were elected officers for the coming year: President, Dr. F. S. Howe, Deadwood; vice-president, Dr. A. S. Hoon, Nemo; secretary, Dr. W. L. Vercoe, Lead; treasurer, Dr. F. E. Clough, Lead; delegates, Dr. J. W. Freeman, Lead, and Dr. F. A. Brandt, Sturgis.

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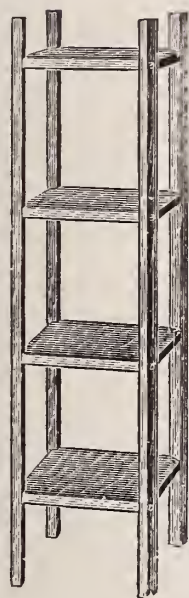
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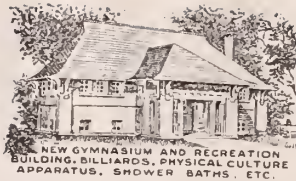
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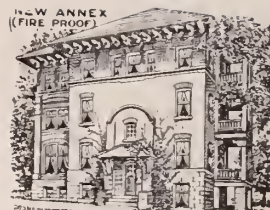


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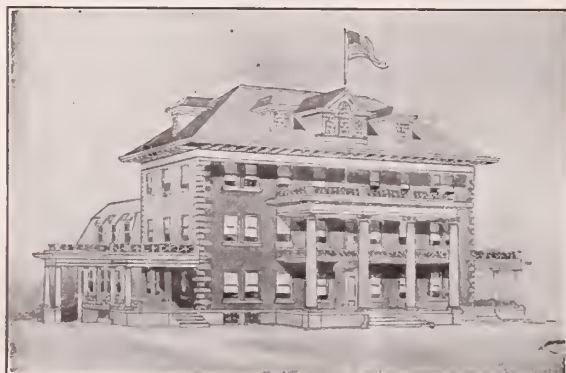
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Silica	.581

Total Solids 3,106

Sanitary Chemical Analysis:

Parts per 100,000	
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